AMERICAN ANNALS

OF

The Deaf,

Organ of the Convention of American Instructors of the Deaf,

EDITED BY

EDWARD ALLEN FAY

UNDER THE DIRECTION OF

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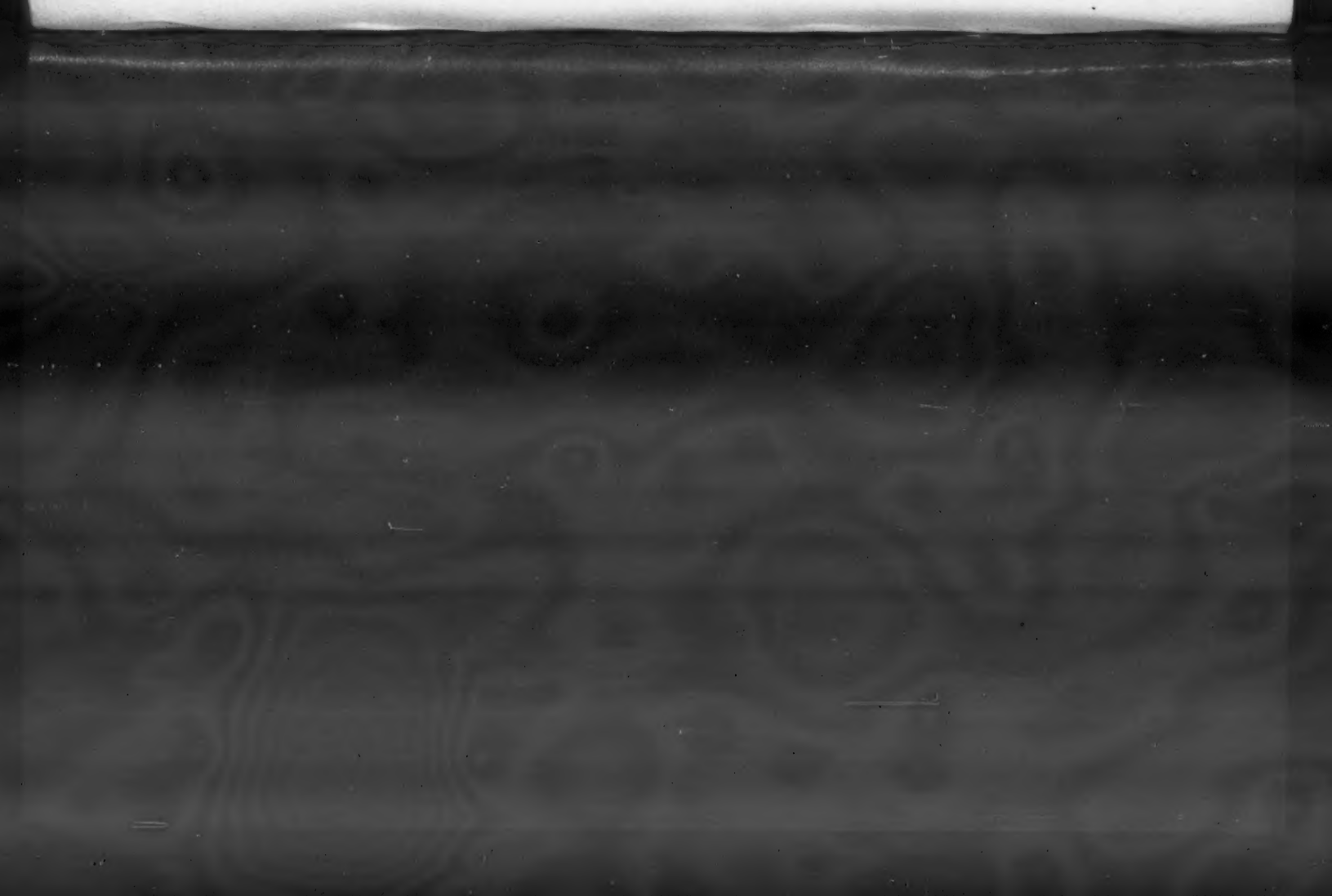

AMERICAN ANNALS OF THE DEAF.
VOL. LXI, No. 2.

MARCH, 1916.

CALLING UP VISUAL MEMORIES TO BE USED IN EDUCATING THE DEAF.

WHILE attending a course of lectures dealing with psychological problems a few years ago, I was impressed with the statement one day that a leader, in order to obtain a following, needed only talk to people on subjects in which they were vitally interested; what he chanced to say on the subject being a matter of minor importance. As proof of the statement, the speaker cited the tremendous following carried by a money-reform movement. Men are vitally interested in money; hence the crowds that listen when the subject is before the public.

It was while listening to this discussion that the question came to the teacher: In what are deaf children most essentially interested? In their games? In their life around the school? In stories of other boys and girls, of animals, etc.? Yes, these and similar interests we bring out in news items, story work, and other exercises. But over and above these there is another field of interest; for it is a truth that the most powerful hold any subject can take on the human mind is that produced by constant association, daily thoughts and tasks, experiences in the same environment year in and year out. The mind turns to these; they become a part of it. Now it will be found that a whole region of such interests lies stored up in every deaf child. Did you ever commence telling a class a pretty little made-up

story of your own and before you have more than started they begin saying, "At my home—"? What you are telling reminds them of some experience of their own. You are perhaps inclined to hush them up. It isn't time for them to talk. They must listen to your story.

Stop right there! You have struck a pot of gold. Back in the years, between the time the deaf child could first understand and the time he entered school, lie stored memories, recollections of events observed, of others in which he has himself taken part, to which his mind will turn with joy. They are experiences forming fields rich in material for language teaching and the development of these experiences will do more than teach language. It is to these interests the teacher must turn her attention if she would have a following—a following which will also be a leading.

With the feeling that this phase of the deaf child's interest may be somewhat neglected in our efforts to develop him, I have felt justified in writing this paper. In an effort to carry out my idea I trust that I may be pardoned for calling attention to some of my own experiences in the class-room. This is done with the hope that some other teacher may thereby find the way easier to lead her class out—or perhaps I should say lead her class back into this memory region, whence they may themselves help to find the way out.

If Tommy's hand is up when you are talking, stop and let him tell you of what happened at his home. Uncover the pot of gold, as it were. Have him draw pictures or get another child to act with him the part of the incident to express which he needs new language. Question him on the order of events and see that he holds to the proper sequence in relating them. You will evolve a narrative—a tale of his home life. It may be "flat," entirely innocent of any dramatic

intensity, but just because it is a personal experience of Tommy's it is of very live importance to himself. He will glow over it and it has a strong chance of holding the class. Why? Again because of the personal element. One of their classmates saw it. It happened at his home.

Once I told a class the following incident of my own childhood:

"My brother had a little dog a few years ago. He built a small house for it. Then he put some leaves into the house and the dog slept on them."

A most simple happening this was, but at the close interest ran high and order was difficult. There was a scramble to talk, for in most of their homes there was a dog. The following corrected narrative is a sample of the stories produced in response:

"Our dog chased a cat one day at home. She ran fast and climbed a tree. She humped her back and put up her tail. She was cross with the dog."

From this and others of its kind a note was made of such expressions as the following:

white and black spotted
humped her back
dropped his head and tail
purred
looked cross
petted
gnawed a bone
howled
barked and snapped.

These were afterwards brought up repeatedly in drills. They were reviewed in actions performed in the class-room, in stories and in story number work, in questions, and in drills on the tense forms of verbs. They were made a part of the class vocabulary. Then books from the library were brought in from which

stories of cats and dogs could be read. They were read with avidity.

The question may here be asked: "Why not anticipate the need for these expressions and teach them first in drills?" Then the child when giving his narrative need not have the interruption which comes from stopping to get at the language. Could it be possible entirely to anticipate these needs, it would certainly be advisable to teach the expressions first, but the writer of this paper has never been able adequately to anticipate the language needed to express the experiences of any child. His closest interests are learned solely through his own telling of them. It is certainly of paramount importance that the child should seize upon English first hand as an outlet to his impulses for expression, rather than any other means, for only by so doing will he make English his mother tongue. Then let him tell his story, even though haltingly. He will thus be learning to show his kinship to the rest of the world—to that large human family who sit around the fireside and tell tales, recitals of personal experience.

A few hands were not up when the events referred to above were being brought out, and of the pupils who failed to respond I noticed that one lived in the heart of a large city. An account of a trip to the country, of another to a moving picture show, and again of a fire in town set him to talking of such happenings at his home. The others who showed lack of interest were pupils whose minds were slow in action or who possessed little power of concentration. This drawing-out process was found to be particularly well suited to their needs. While the story directed to the class had not awakened a response, it was found that by questioning them individually one could call up in their minds memories of home and their faces brightened with

interest rarely seen. I have in mind one boy in particular who seemed to take more interest in all language teaching ever after he had been touched in the one spot of vital interest to himself.

In correcting these stories the teacher is apt to come upon a recital like the following:

"I climbed a tree one time. My mother scolded me. My father threw some eggs. They were bad. He took some milk to a woman. He was kind."

There was material for three stories in these observations. The child had gone back to the habit of journal writing and was mentioning all that had happened within a given time instead of following one incident to its close. To induce him to cling to one narrative, question him about it, and by helping him insist that he tell the beginning and the end of the story. At the close the pupil is also liable to begin relating another incident which he remembers followed this one. Some are also inclined to give unimportant details. These difficulties can be overcome by repeated practice in the production of stories containing the essentials for but one. Your deaf child will get the narrative idea by and by and when he does he is likely to develop into a tale-teller of surprising ability.

A few days ago, after correcting the morning locals I found the following account of a trip to the park on the wall slate. It had been written by a rather mature second-year pupil. Without correction the account ran thus:

"My sister and I rode on the car last summer. We went ————. Afterwards we walked. We met cousins Louola and ————. We shook with them and kissed. Then we sat down on a bench. My sister talked with them. My cousin Louola smiled to me. We ate some grapes and some popcorn. We had a good time. By and by we went into a car and we

went back home. We said, 'Good-bye.' Two cousins went away."

It was found that this last contained a transposition of the order of events. The good-byes had been said and the cousins had gone away before they took the car for home.

I do not mean to suggest that this kind of exercise should take the place of other story work used in our schools, nor that what we learn from it of the child's needs should form the sole guide in deciding upon the new language to be taught next. I think, however, that many teachers will be chagrined at finding the number of words yet untaught which the child will in this way show her he needs daily in his home life. But what I do wish to bring to view is the importance of the recognition of this work and the need of a place for it on our schedule. Pupils of average maturity should in the third grade be able to grasp the working out of a narrative for themselves. I have never been able to bring it up oftener than twice a week on my programme, but the pupils, after they have grasped the idea, frequently fill in odd moments, gained by finishing their task before their classmates, in writing about "Home."

If the story is especially good I allow them to keep it till the next spare time, when they may copy it in a book to be carried home.

It will be seen that the more varied the teacher's own experience the better able will she be to come in touch with and bring out the experience of her pupils. She will do well to read their letters from home and make a note of the subjects discussed and of the objects written about. These will help to lead the way.

I said in the beginning that the development of these interests would do more than merely teach language, and it will. We are, for one thing, constantly devising

means to induce the reading habit. There is not one of us but will read, if we can, that which touches closely what we realize as our own personal interests. The question, then, of reading is that of leading out and making vivid the child's appreciation of his own experiences and then of placing before him reading material which shows his kinship with his own life. If he does not read, then you have failed to quicken into new life and make real to him his own experiences, for the reading matter touching that life is available though it is to be regretted that in a simplified form it is not as abundant as one could wish.

It is from this notion of kinship that I would evolve my idea of the greatest value of this kind of work. As it is through sympathy with her children's lives and their kinship of interests in each other that the teacher is able to lead them from the first, so it is that when she has thus awakened into new life a realization of their own experiences, it is again through the kinship which these bear to new interests that she may effect a union between the old and the new, and so add more. The root of the word education, let us here recall, is *educo*, to lead out, but the word in its later usage has come to mean also to train, to foster, to nourish, to expand. When we have led out and brought into new life interests already formed we can nourish these by adding more knowledge and leading into broader fields of interest in the outside world.

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THE DIFFICULTIES OF LANGUAGE TEACHING.

For several years I have taught a class of young children in two divisions.

It does not seem a practical way to try to teach children who are not prepared to advance in the same class with those who are. On the other hand a teacher with young children who have not language enough to work alone does not find much or, indeed, any time to spend with the slow ones. In either case it does not seem a good thing for the slow children (I do not mean stupid ones), or for the bright ones, to be taught together. Then what is to be done? What is the best work to be given to occupy the time of the bright or more advanced pupils while the teacher is working with the slow members of the class? This has always been a problem to me.

I have had the children spend the time in doing mechanical arithmetic and learning the multiplication and division tables. In the case of one boy this proved quite beneficial. I suppose a good arithmetic teacher would not agree to this idea.

Another way that has been suggested to occupy the children's time is to use a primer. Probably some teachers might use this to advantage, but I have not found it very helpful. Later, however, when the children have acquired more language, a primer may be useful.

I have made a selection of pictures representing verbs in the present progressive tense and pasted them on card-boards. The children would describe the pictures only in part, as, "The girl is holding a doll;" "A cow is running." These verbs had been previously taught.

I think the best way to solve the difficulty would be to have teachers-in-training to take these slow children

and work with them under the direction of the regular teacher. By this means, perhaps, the slow children might be brought up to the standard of the class.

It is good for young children to do some memory work every day. Give them a new journal, not too long, with not too many new words; language that they use in their ordinary intercourse with one another; language that will be of use to them. Even simple questions and answers may be memorized. By this means the children learn the question forms, which are of untold value in speaking and writing questions. It is important to train their memories while young, in order to prepare them for the study of books, and I might mention history particularly as a valuable training for the memory, this being also an aid to concentration. We do not, however wish our pupils to memorize words and sentences of which they do not know the meaning.

There is another difficulty with two grades of pupils in one class. We think our pupils understand when we have explained the lessons carefully. The bright ones do understand but the slow ones have not grasped the idea. After taking the class to some place of interest for the sake of the language, I have had this experience: I have spelled, written, and signed the names of the most important objects. The next day I would find the slow ones had not grasped the idea nor remembered the words, while the bright ones had mastered both and were ready for more new language. They would ask good questions and answer question forms such as "Why?"

What is the best work to be given to help a child with the use of the forms *to be* and *to have?* We all give elliptical sentences using the above forms. The difficulties come when the children try to use these forms in their original work. Is the reason they fail so often

that we have not given them enough drill on these forms? or is it their own carelessness? I think we might answer yes to both these questions.

I suppose all teachers with young children have had this experience: Sometimes while having an articulation drill I find the children are so anxious to tell me something that their minds are not on what I am trying to do and will not be until they have told what they wished to tell. Rather than lose this language I always yield and get as many correct sentences as possible written and spoken. I do not know whether this method would meet the approval of a good articulation teacher or not. Perhaps it shows that the articulation drill was not as interesting as it might have been.

Then comes the work on the constructions of *asked, said,* and *told.* No language drills are more needed to enable a deaf child to express his thoughts, and without thorough drills on these nearly all language written by the pupils will be incomplete. An inexperienced teacher is apt to be in doubt when to begin this work. Perhaps some may begin too early; others err in not beginning soon enough. A good time to begin seems to be when the pupils are able to write original ideas, using the pronouns with the present, past, future, and present progressive tenses of verbs, asking and answering questions, and using the imperative mood of verbs. They must also be able to express themselves correctly in simple sentences. I should give thorough drill on the construction *told that* first; then on *told to.* After thorough drill, spending at least twenty minutes every day on one or other of these two constructions, I think it would be well to take up *to ask,* but never to give more than one construction each day. To derive any benefit from these drills one must work continually at them. As long as mistakes occur the need for more drill is

evident, and even after a great deal of drill has been given we frequently become discouraged and find our work is not what we had expected.

EMMA KELLY,
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NATURE STUDY.

"The world is too much with us late and soon;
Getting and spending we lay waste our powers;
Little we see in nature that is ours,
We have given our hearts away—a sordid boon."

IN QUOTING, I have taken the liberty of italicizing a line of the familiar sonnet of Wordsworth which, scathing though it may seem, too often becomes a just accusation. This is particularly true of teachers of the deaf, I fear, and having been in the profession for twenty years I feel no hesitancy in calling attention to our dereliction.

Why should our students, of all people, deprived as they are of so many things that the more fortunate enjoy, be denied the intimate acquaintance and consequent ever-increasing personal interest in the birds, the trees, the flowers?

When so important an avenue to the brain as the ear is closed, it is imperative that the other avenues be cultivated to the highest possible point. Beyond doubt the most valuable asset of the deaf-mute is *vision.* Of all the senses sight is supreme in the matter of observation, identification, and comparison. For this reason the deaf are, relatively speaking, not so seriously handicapped after all, when it comes to the field of nature study.

Have we taught those under our instruction that Nature is but another name for God? Have we trained

them to *feel* the beauties of the old world which surround and crowd in upon us from every direction? There are so many things that might be borne into their minds by frequent walks and talks.

An all-wise Creator has so ordered that the trees shall be clad, each succeeding spring, with green, the symbol of immortality, life after death's long winter; in the fall the green by the same Divine Hand is changed to gold and scarlet and crimson with hues and tints and shades of infinite variety. Fiery constellations blaze in the winter sky. Cloud ships are constantly sailing overhead in a sea of azure. We who have sat and silently watched the sun slowly dying in the west and have traced in the rapidly changing colors all manner of imaginary animals, islands, and mountains, wonder that such feelings and responses to nature's call have to be *taught* to *any one*. But we are brought abruptly to this conclusion by contact with the stone wall of fact. These feelings must be cultivated. The embryo of love for nature is doubtless planted in every heart, but it is a far cry to the finished product. Every one of us is better for a few hours spent alone in God's out-of-doors. Yonder great snow-white bank of cloud standing so majestically against a background of clear sky has, no doubt, suggested to many minds the purity of a mother's soul, a desire for a purer life, or kindred thoughts.

Ripe experience in the schoolroom leads one to several conclusions which may serve as avenues of approach to a practical discussion of this subject:

1. All teachers take too much for granted as to the child's knowledge, especially as to vocabulary, and daily pass over things *presumably known*, which should not only be taught but emphasized. Often we discover, to our horror, that members of advanced classes have

not the faintest conception of (to us) the most commonplace things.

2. The great majority of nature-study books are too technical and too voluminous. It therefore becomes necessary, in the main, that we prepare our own notebooks.

3. The teacher is often afraid of his own ignorance. There is no better remedy for this than a firm determination *to learn with the class.* Let us never fail to be honest with our students, even at the expense of pride. If asked a question that you cannot answer, do not hesitate to say, "I do not know." Hearing this response a great number of times in the class-room at college from the lips of one of the most eminent southern biologists has made a profound impression upon my mind. The logic of it is readily seen when we reflect that young people as well as old despise sham and hypocrisy; if anything, the distaste of the younger for it is more intense.

4. It is hard to get pupils to ask questions. This, in general, is true, but the moment one branches out into practical nature-study conditions are reversed and the teacher becomes the target of numerous and veritable rapid-fire guns.

5. We often get too far away from that fundamental pedagogic principle that we must proceed from the known to the unknown. The concrete is lost in the abstract. In order to cope successfully with this difficulty we must bring into the class-room *from the outside* a vast number of objects. This is done fairly well in the lower grades. (One can hardly conceive of it being overdone!) In the higher grades, however, in an alarming number of instances, it is well-nigh if not entirely dropped. "Never start anything you can't finish" is a good motto and there is no reason why a

system of schoolroom exhibits cannot be worked out for our advanced work just as is being done in the colleges and universities.

"Mrs. Wiggs" of "Cabbage Patch" fame said that she never thoroughly enjoyed a good thing until she had passed it along. So it is in the hope that some discouraged teacher may take heart again that I outline some of the things I have used advantageously. Professor James regards collecting as the basis of all natural-history study and asserts that "probably nobody ever became a good naturalist who was not, as a boy, an unusually active collector."

I have in my schoolroom a large press with glass doors which houses among other things the following exhibits:

No. 1. Garden seeds: Salsify, turnip, parsley, tomato, radish, asparagus, onion, summer squash, sugar corn, beet cucumber, lettuce, cabbage.

No. 2. Same: Pop-corn, musk-melon (cantaloupe), snap beans, peas, parsnip, bunch beans, pole beans, butter beans (Lima), navy beans, okra (gumbo).

No. 3. Field seeds: Millet, red clover, alsike, timothy, sorghum, blue-grass, field corn, oats, rye, barley, wheat, hemp, tobacco, flax.

No. 4. Spices: Mace, cloves, white mustard seed, ground white mustard, allspice, ginger root, ground ginger, celery seed, cinnamon bark, ground cinnamon, ground black pepper, ground red pepper, whole nutmeg, ground nutmeg, black mustard, rape, coriander.

No. 5. Beverages: Green coffee, roasted coffee, ground roasted coffee, green tea (China), green tea (Japan), black tea (Ceylon), cocoa beans (Maracaibo), cocoa beans (Trinidad), kernels and shells, chocolate, cocoa, postum.

No. 6. Petroleum and its by-products: Crude petroleum, cylinder oil, floor dressing, paraffine oil, refined paraffine wax, kerosene oil, coke or residue, benzine, naphtha, gasoline, red, white, and yellow vaseline.

No. 7. Drugs and medicines: Quinine in bulk, empty and filled capsules, chocolate-covered tablets, acetanilid and salol, mentholated throat tablets, hydrogen peroxide, spirits of turpentine, camphor-phenol, witch hazel.

No. 8. Same: Calomel, corrosive sublimate, camphor gum, spirits of camphor, boracic acid, crab-orchard salts, senna leaves, olive oil, castor oil, A. S. & B. pills.

No. 9. Same: Listerine, prepared chalk and orris, essence Jamaica ginger, glycerine, plaster of Paris (also dental cast), tincture of iodine, smelling salts, chloroform liniment, court plaster, collodion.

No. 10. Crystals: Copper sulphate (bluestone), alum, sodium chloride (common salt) fine and coarse, sal ammoniac, rock candy, potassium nitrate (salpetre), iron pyrites, citric acid, oxalic acid, quartz, iceland spar.

No. 11. Elements: Sulphur, mercury, carbon, zinc, copper, silver, iron, gold, lead, nickel, phosphorus (under water), aluminum.

No. 12. Wood: White pine, black ash, hickory, buckeye, cypress, yellow pine, cherry, maple, long-leaf pine, chestnut, poplar, cedar, white oak, red oak, black walnut, lynn.

Veneers: Mahogany, mohogany stump, birch, maple, California redwood.

No. 13. Flower seeds: Petunia, zinnia, poppy, morning-glory, candy-tuft, sweet peas, nasturtium, yucca, sunflower, dutchman's pipe.

Other seeds: Watermelon, persimmon, pawpaw, water maple, sweet gum, bead corn, apple, orange, lemon, peach, milkweed, dandelion.

No. 14. Articles of food: Flour, meal, flake hominy, hominy, oatmeal, rice (two grades), macaroni, spaghetti, Jordan almond, Valencia almond, gelatine, date, citron, cranberry.

No. 15. Corn products: Yellow corn, corn germ, corn hulls, yellow-corn oil, refined oil, oil cake, oil-cake meal, starch, sugars, dextrine, white and yellow syrups, and gluten.

Miscellaneous: Gold, bronze, and aluminum paint, "banana" oil, brown sugar, cane sugar, cotton seed, cotton-seed meal, liquid glue, putty, glazier's points,

white lead, linseed oil, varnish, bluing, acetic acid, starch, Japan wax, printer's ink, type, leads, turmeric, extract of lemon and vanilla, bicarbonate of soda, Castile soap, ammonia, coal tar, Paris green, hellebore, iron and copper filings, black, semi, and smokeless powder, cartridges and shells, resin, myrrh, gum arabic and tragacanth, Para and Ceylon rubber, asafœtida, sheet glue, linotype letter, and lines set up.

Other exhibits are housed in boxes covering minerals, Indian relics, electricity, light, magnetism, shoe-shop, etc., etc.

Nearly all of the above items are contained in small glass bottles (empty developer bottles) which have been furnished by pupils who lean toward photography.

Wooden blocks 16 inches long, 2 inches wide, and $1\frac{1}{2}$ inches thick were bored with a $\frac{5}{8}$ inch wood bit to a depth of $\frac{3}{4}$ inch. The holes, in which the bottles are placed, are $\frac{1}{2}$ inch apart. This allows grouping and maintains classification.

The display of seeds is supplemented with a library of pictures and these together are often borrowed by other teachers and form a permanent asset of the school.

I believe that the day will come when all well-regulated schools will have collections of both natural and artificial objects properly classified in a special room fitted for the purpose and under the care of an expert, so that these things will be instantly available for any instructor of the school who may need them.

WILLIAM HICKMAN CARTER,
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WHAT A DEAF CHILD LEARNED FROM MAIL-ORDER CATALOGUES.*

As a means of increasing my vocabulary—to say nothing of the invaluable practical information gained thereby—I believe nothing played a greater part than the habit of daily poring over the pages of the mail-order house catalogues when I was a child. I owe this habit to the circumstance that, aside from the *Youth's Companion*, a weekly newspaper, a farmers' journal (in Swedish), and a few books, these annual catalogues contained the only literature at my command on the lonely farm home. Moreover, these catalogues were "forbidden fruit," for my mother deemed their reading a pitiful waste of time. Had I been a hearing child my leisure moments, perhaps, could have been better utilized, but as it was I do not think there is cause for regret.

In answer to the question how the catalogues helped me, I may say that from them I learned not only the names of the hundreds of articles described on the two-thousand or more illustrated pages of Sears, Roebuck & Company's catalogue, but I gained also some idea of relative values.

The description of the respective merits of the articles also enlarged my vocabulary and aided greatly in the comprehension of language. It was from the catalogue that I gathered that the white *keys* of a of a *piano* are *"real" ivory*; that the black ones are *ebony*,

*The writer lost hearing at four years of age. Up to that time she had heard and spoken only Swedish. She has now forgotten all her Swedish except a very few words and sentences, such as "candy," "sausage," "bacon," "I thank you," "Light the lamp"—expressions associated with her desire for the articles of food named and her childish dread of the dark.

and that the wood of the *highest-priced* of the pianos is *genuine mahogany, warranted* not to *warp* in the *driest climate.* Also, that the *blade* of a certain *knife* (I had set my mind on getting one) was *steel* and the *handle pearl;* that *socks* were for men and *stockings* for women, and that either was *hosiery;* that shoes were *footwear*, etc.

The nursery catalogue, besides being a similar help, aroused an interest in geography by stating which variety of apples was hardy enough for the cold of Minnesota, the Dakotas, etc.

I believe such catalogues as the above-mentioned should be placed in the hands of deaf beginners in language, to be used outside of school and during spare moments in the class-room.

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EARLY STEPS IN NUMBER WORK FOR DEAF CHILDREN.

The first procedure is to teach the numbers 1 to 10 by lip-reading, representing the figures on the blackboard. Immediately begin the articulation of the words, one, two, three, etc. Drill carefully. When the children acquire some degree of facility in pronouncing them it is time to introduce the Montessori sand-paper figures. The purpose of these is to establish a muscular memory by the hand and the arm, by the tracing of them, before the pencil or chalk are used. The figures are made about the right size for the eyes of a young child; later he can reduce them to a smaller size as the need requires. In the very nature of the case the children will soon want to practice the making of the figures on the black-

board. The sand-paper letters will then have fulfilled their purpose and can be laid aside. It will be an aid to a better articulation of the words if the child is allowed to write them as follows: 1 one, 2 two, 3 three, and up to ten.

Teaching of "How Many."

All is now ready for the next step. The materials required are the kindergarten chips and dried lima beans. Seat the children at the table in full view of your hands. When their attention is gained, select four beans covertly and place them under the palm of your hand. Say, "Look, look." Then raise up the hand a moment only. The children will glance up inquiringly at you and you should say, "How many?" Repeat this proceeding with all the numbers up to five, but never in consecutive order. As their recognition of numbers as wholes begins to develop, continue the same process in their recognition of them up to ten.

To prevent the children from thinking that number work deals only with chips and beans you can have them apply the counting to the objects they use daily—nuts, flowers, fruits, the buttons on their clothing, the marbles they play with, the pieces of candy they eat.

First Steps in Addition.

The initial impression upon the child must be that addition is the process of construction, putting together, making more by putting one thing with another. It is well to use the Montessori counting rods at this point. They are called rod one, rod two, rod three, and so on up to ten. After the children know them by sight, it is time to put two of them together to construct a larger one or, more properly speaking, a higher one. Don't expect them to articulate the names of these rods; it needlessly burdens the vocabulary.

The purpose of them is soon served and the teacher passes on to other apparatus. Select rod two and place it in an upright position in full view of the children. Place rod one upon it and ask, "How many does it *make?*" Set rod three beside the two united rods and they will see the answer verified by comparison. The teacher will do well to form the habit of using the rods in a vertical position. It greatly adds to the element of interest the children manifest in their use. When they are just played with, however, the children may use them flat upon the table.

When the constructing idea by rods is mastered it is time to apply the same idea to other material. It can be worked out with small groups of children by using chips and beans upon the table. The way to do it is as follows: Take a group of two beans and place very near to it a group of two others. Allow them to see you move very quickly together the two groups, thus making a whole number, four. Ask, "How many does it make?"

Have them answer the one word only, four. These processes may be repeated each day during the period set apart for number work. After a while the class will be ready to pass on to the more difficult task of writing $3+4=7$; and of articulating the words three and four make seven.

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THE NECESSITY OF A SPEECH ENVIRONMENT.

I KNOW of no more "*live*" topic at the present moment connected with the education of the deaf than that of how to do the most efficient speech work for the deaf children entrusted to our care. The desire is universal that each deaf child shall be given the utmost possible command of practical spoken language and lip-reading. Every parent desires it; every school desires it; the general public desires it. There is no question about the wish. The only question is how to accomplish it. Much detailed and technical knowledge is necessary in order to bring about successful results of teaching, but certain fundamental conditions must exist before this detailed and technical knowledge can be put into practice.

The failure to provide these conditions destroys the efficacy of the most expert teaching.

What teacher of swimming, however skilful and experienced, could accomplish any practical results with his pupils in the absence of that fundamental condition, a body of water? One cannot learn to swim except in a water environment.

What teacher of the art of flying would attempt to instruct his pupils except in an air environment?

No one can learn to swim while lying on the floor nor to fly while supported by the earth. We may acquire theoretical knowledge of swimming and flying in a classroom, but we cannot actually swim or fly till we have transformed our ideas into *automatic muscular* reactions, and that can only be done by being plunged into the corresponding environment of water or of air, wherein it is absolutely necessary to swim or fly.

In precisely the same way one may acquire a certain theoretical knowledge of speech and spoken language

by technical instruction, but no one can learn to use and understand speech automatically and unconsciously without being wholly plunged into a speech atmosphere or speech environment wherein the use of speech is a *necessity*.

As we cannot learn to swim without swimming, or to fly without flying, or to walk without walking, so we cannot learn to speak without speaking. But the muscular coördinations involved in fluent speech are so complicated and so delicate, and so slightly perceptible to consciousness, that an immense number of repetitions is required before the actions become reflexive and instantaneous. This is doubly true when it must be done without the aid of the organ of hearing provided by nature for the purpose of assisting us to acquire speech. Even those of us who have been engaged for many years in teaching deaf children to speak and to understand speech do not always realize how many times the organs of speech and speech-reading require to be exercised before anything approaching normal fluency and automatism can be attained.

To have an idea automatically suggest a spoken form, or a spoken form automatically suggest an idea, even in the case of a hearing child, demands many hundreds of repetitions. If a deaf child could see a word as often *at the moment when that word's idea was in his mind*, or have as many opportunities to use the word *when he needed it*, as the hearing child, he would acquire speech and speech-reading with something approaching the same rapidity. But under the most favorable conditions of environment in a speech atmosphere, the deaf child has only a small proportion of the opportunities to speak and to understand speech that are enjoyed by the hearing child.

Let us examine the conditions in this respect under which the great majority of deaf children are taught speech and lip-reading in the United States.

Seventy-five per cent. of the pupils in our schools for the deaf are taught by what is known as the "combined system." In these combined-system schools some oral instruction is given—that is to say instruction in speaking and by means of speech. Much of the purely educational work is done, however, by means of finger spelling, and sometimes by the sign language.

In some of the schools, where the most favorable conditions exist, some of the pupils are taught during the four or five hours a day in the class-rooms by the pure oral method. The total number of these pupils is supposed to be about fifty-nine per cent. of all the pupils in combined-system schools. The other forty-one per cent. are acknowledged to be taught principally by silent methods.

Since in this paper we are discussing the matter of speech environment, we must pass over the unfortunate forty-one per cent. (3,400 children) and see to what extent a "speech atmosphere" is provided for the other fifty-nine per cent. (6,090 children).

The maximum time that any of these pupils are in the class-room in charge of oral teachers is five hours a day, five days a week. Many of them have much less than that. The classes number from eight to twelve. The average is about ten pupils to each teacher. During the five hours in the class-room, the pupils are not engaged more than three hours in speaking and watching speech. But there are ten individuals in the class, and while each one can, if he pays close attention, get all the practice there is in reading the lips, whether the speech is directed to him or to another, he can have only one-tenth of the chances to use speech himself.

Outside the class-rooms, while the pupils are in the shops, the dining-room, playroom, chapel, recreation grounds, gymnasium, and dormitories, practically all communication with them on the part of teachers of industries, supervisors, gymnastic instructors, and, I regret to say, even by the superintendents and many of the teachers, is conducted by means of finger spelling and the sign language.

That is to say, while for a *maximum* of fifteen hours a week they have an opportunity to learn to read the lips, and for one hour and a half a week are made to use speech themselves, yet, during the remaining ninety-seven waking hours each week, they not only do not have an opportunity to use spoken forms, but they are exercised in another method of communication.

One hour and a half a week in which to train the brain and the organs of speech in the subtle and difficult coördinations, muscular and mental, of speech, and ninety-seven silent hours. Is it any wonder that the greater number of superintendents of combined-system schools have acknowledged that the results of speech work done in their institutions is unsatisfactory?

It is to their credit that they have arrived at the conclusion that the reason for this is the lack of what they themselves have designated as a "speech atmosphere," but it is not to their credit that they have not done more to provide what they acknowledged to be needed.

We will not enter here upon a discussion of the necessity or the desirability of employing silent methods in connection with the education of the deaf. The point of this paper is the almost axiomatic theorem that in order to acquire practical speech and lip-reading deaf pupils must be surrounded by a speech atmosphere.

Seventy-five per cent. of the pupils in our schools for the deaf *are not* surrounded by a speech atmosphere.

Yet in every combined-system school there are some pupils that those in authority believe fitted to be taught by the speech method, and whom they are attempting to teach by that method in a fashion comparable with trying to teach a boy to swim in ankle-deep water.

Let us leave aside entirely the question of silent methods versus speech methods, and confine ourselves to inquiring how we can do the most effective speech work in the cases that all agree should have instruction exclusively by speech.

There is but one way to do this, and that is by surrounding those pupils throughout their entire school life with persons who shall always speak to them and require them to speak in reply. This can be done in a combined-system school only by absolutely segregating the pupils to be orally taught from those with whom silent methods of communication are employed and permitted. This is a perfectly feasible thing. It has been successfully done, and it could be successfully done in every combined-system school.

The initial expense would not be large, and the increased annual expense would be, proportionately, very small. All that is needed is the will on the part of the superintendents, and the active coöperation of parents in educating legislators and obtaining the necessary funds. Each superintendent should help the parents of his pupils to organize, and should lend the full force of his influence to bring about this much-needed change.

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FARMING FOR THE DEAF.

"Farming is a business which requires the highest business talent; it is a profession which requires the best technical skill. There is no other profession that requires such a variety of learning, such an insight into nature, such skill of a technical order to be successful, as the profession of farming."—*From Dr. Harvey W. Wiley's "The Lure of the Land."*

No TRUER words were ever written regarding the world's most important occupation. Dr. Wiley says that all these things are required *to be successful.* He is not speaking of the mere tiller of the soil who barely wrests from the earth the means of subsistence in its simplest forms. The farmer of to-day is not what many believe him to be—"stunted and stunned—a brother to the ox." The *successful* farmer lives in a comfortable home, each year improves his equipment and methods, has the means to educate his children, builds up his soil, and makes his farm increase in value with the passing years.

When the Superintendents and Principals of Schools for the Deaf met in Indianapolis in 1913, throughout their discussions frequent reference was made to the desirability of farming as an occupation for the deaf. One speaker, indeed, appeared to think that deaf men do not succeed as farmers because they fail on the marketing side, but this is not a failing peculiar to the deaf, for one may safely say that all farmers find the disposal of their products the most difficult and discouraging phase of their work—and with his handicap these difficulties are increased for the deaf man.

When we consider that ninety per cent. of all business ventures launched in the mercantile world fail, shall we attribute each deaf man's failure to the fact that he is deaf? Shall we not rather look for some other qualities or lack of qualities which unfit him for that particular work? Would he have had a taste and

ability for that occupation had he not lost his hearing? If he fails as a farmer, is it not because he lacks the "business talent," the "technical skill" and "variety of learning," rather than because he can not hear?

The *learning* and some degree of *technical skill* may be provided by the schools but there is something more which must be inherent in the man. In any business, whether of farm or city, it is conceded that lack of judgment causes more failures than lack of knowledge. There is a good word, much overworked since having been made popular by our Chief Executive, which may be used to describe the class of men who are prone to fail in almost any undertaking—they are not "forward-looking" men. They do not foresee possiblity nor consider consequences. This farmer puts in a large acreage of cultivated crops without considering that he will have neither time nor equipment to care for it properly. That one plants too early or too late or fails to have a well-prepared seed bed. Another hires more work done than the income will justify. Another in a season of full crops has an opportunity to sell his for a fair price to a reliable buyer but prefers to wait for the market to rise, not foreseeing that the abundant supply will force prices down. Sometimes he wins, to be sure; and then he is confirmed in his belief that it was due to good judgment on his part, while his neighbors call it luck.

Many fail because of lack of perception in relative values. With limited time they devote too large a part of it to non-essentials. It is hard to choose which thing to neglect when it is impossible to attend to everything. The forward-looking man saves sufficient money to pay all known expenses with a liberal allowance for unforeseen calls upon his purse. If there is one thing which characterizes the deaf man's business talent—or lack

of it—it is his misinterpretation of the word *afford.* He says he can afford this or that desirable article offered by an importunate agent or temptingly displayed in the stores, when in reality he means that he has at present the price in his possession, but forgets that taxes, insurance, rent, fuel, or clothing which must be paid for will consume his entire income. It is by small economies of time, material, and money that the farmer succeeds, and true economy is little known or practiced by the American people. There are times when the sort of thrift which makes use of the funeral-baked meats to furnish forth the marriage tables is to be commended. In these days of much comment on the high cost of living all ought to remember that the cost of dying is even higher. Some maker of jingles has aptly said "You can ride to the coast in a Pullman for the price of two miles in a hearse." It would be well if every person, whether deaf or hearing, were impressed with the shame that it is to leave to relatives, friends, or the uninterested public the burden of paying his funeral expenses. In that case the improvident might be led to practice those habits of thrift which would tend to material success in whatever work they engage.

The man with business talent, especially if he be a farmer, must carry in his mind an infinite number of details. He must be able to meet emergencies and have the ability to change his well-made plans at a moment's notice to adapt them to sudden changes of weather or conditions. To use a homely old-time admonition, he must "use his head to save his heels," a thing which is impossible if he has not all the hundred-and-one details of the season's duties in mind at once.

There are pitiful failures on the farm from ignorance on the part of the farmer, but ignorance may be corrected. Just at present the "back-to-the-land" move-

ment is at high tide and there are enough startling successes to spur others on, but of the cruel disappointments and suffering of those who have not the qualifications mentioned by Dr. Wiley we hear but little.

"There is no other profession which requires such a variety of learning," and yet the idea persists that any one can be a farmer. That may be the reason why, in many of our schools for the deaf, only the stupidest boys, those too mentally inadequate to learn any of the trades taught, are sent to the school farm there to become simply a man with a hoe, knowing no reason for the work they are doing, and seeing no connection between process and result. The variety of knowledge, both theoretical and practical, which a farmer must have is limitless. On this side is a city-bred man of small means who was sure he could make a farmer, though lacking absolutely in experience. He put a goodly percentage of his limited capital into a horse, which he soon pronounced useless as it was so unmanageable while being harnessed; yet to the youngest farm-bred boy it was no wonder; for what horse would calmly endure being bridled by having the bridle hung on his ears and the bits pulled forcibly over his nose! Another had an excellent calf which he wished to use as a dairy cow and waited some years wondering why she never gave any milk—just because he did not know there was any connection between lactation and gestation.

All this is not to argue that deaf men can not succeed as farmers, but rather to urge that they have training and instruction to prepare them to avoid the errors of ignorance and lack of judgment, and most of this must be done by the Froebelian method.

Every summer brings its demand for extra farm help and here appears an opportunity for deaf boys, while yet in school or college and not permanently employed,

to be profitably occupied during the summer vacation, earning enough to clothe themselves for the year and learning whether or not they wish to become farmers when ready to choose their life work.

From a somewhat varied experience with deaf boys on the farm we may be able to recount something of interest or value to those who would like to spend their summer in this way; or perhaps our observations may suggest to teachers of the deaf points which would aid pupils who seek such employment.

Carlyle says that the man who sings at his work will do more and do it better because he is happy. Last year to insure the happiness of the deaf boy who worked for us, and to make him more inclined to sing at his work, we sought work among our neighbors for other boys. The replies we received were illuminating. The first farmer to whom we applied had given work to deaf boys for many summers and to our question as to whether there was an opening that season, the answer was "Not if I can get any one else." We were interested to learn the reason and it was given us promptly and concisely: "They do not know how to do things and it is hard to make them understand; you have to watch them all the time and yet they always insist on *the highest wages.*" Here, indeed, was one who knew whereof he spoke and my mind flew back over a long series of incidents in corroboration of the statement.

I recalled the boy who was told to pick "the beans clean" from one row of a precious seed bed and, surprised at the few he gathered, was found to have left untouched all that had sand on the pods. They were not "clean."

The boy who was set to digging dandelions from the terraced lawn whereon the turf had been produced with difficulty, and after working an hour or more was found

to have sat flat on the ground with feet astride, digging faithfully, and hitching himself down the slope, plowing deep furrows in the treasured sod with his heels.

The other youth to whom was given a two-quart measure with instructions to feed the horse four quarts of oats each meal. The rapid disappearance of grain led to an investigation in which it developed that he thought any measure was "a quart" and he had been giving the measure four times full.

Any of these instances might have occurred with a hearing hired man, since on the average they are not of the highest intellectuality, but because of such things and the many drawbacks caused by their deafness farmers are not willing to pay the highest wages to inexperienced men or boys who are further handicapped by having to have all directions given in writing. It takes valuable time from a busy day to stop work of both master and man to write, spell, or sign directions regarding work that is to be done. Again, if a deaf worker is in a distant part of the field, or simply out of sight, and is wanted, it is a hardship at times to leave everything and spend much energy either to attract his attention or to go to him. As a mere "harvest hand" where only routine work is required these matters are not so noticeable, but as general helper on a diversified farm they are worthy of consideration.

Our next inquiry was of a prosperous, shrewd, and kindly farmer whose knowledge of farming is extensive but whose learning was not gained from books. "No, I don't want to try to get along with no deef and dumb boys. They ain't eddicated enough." Which recalled the day when work was rushing, disaster was imminent, and the unschooled farmer in frantic haste seized a convenient bit of shingle and wrote to his deaf helper in crabbed script, "Git a roap." Poor John had never

been "oral," else his alert mind would have transposed the elements from the chart. He might find a cake of soap but what was he to do with it? for the G of the first word had crooks enough in it to pass for an S. And the farmer attributed his hesitation and non-obedience to lack of education—never guessing that it was his own education which was at fault.

At last our efforts to find a berth for another deaf boy seemed about to be successful, for the last man to whom we applied seemed pleased at the prospect until he mentioned the matter to his wife, who most emphatically announced her decision thus: "No, I will not have a deaf hired man. He would have to sit at the table with us and I will *not* endure it again."

Here again visions of past trials arose. During our first summer we had in our employ a deaf young man of eighteen who would not have recognized a table manner had he met it face to face. The memory came to mind of how the Man o' the House was urged to correct this failing and how he refused, saying, "I do not think it best. He will feel that we are watching and criticizing him if we do." How he carried his mouth to his food instead of the food to his mouth, his grunts and gurgles of appreciation, his actual turning up of his nose at dishes of which he was not fond, the absolute black streak on the table cloth where his arms rested on each side of his plate after one meal—all these are vivid pictures even after years. Then there was his surprise when it was suggested that if he bathed oftener than once a week the laundress would find his clothing easier to wash, and his earnest query, "Can I—not Saturday?" as if bathing were a religious rite connected only with Sabbath Eve. And then the climax when he blew his soup so vigorously that even the considerate Man o' the House was moved to remark, "If you were to do

that elsewhere people might think table manners were not taught at the ——— School for the Deaf," and the complacent reply, "I know it, but I wa ıt to cool my soup."

The desire, almost determination, to use the front entrance on all occasions seems to be a characteristic of most of the boys who have been with us. No objection is made from a social standpoint but because a busy farmer's wife has neither time nor strength to follow the comings and goings of the hired man with broom and dust pan to remove the extra dirt, to be sure screen doors are shut, and to give warning not to wake the baby.

The table and other manners of the hired man in general are seldom pleasing, but because a deaf man is not so desirable for some reasons it would add to his value if he could count lack of offensive manners among his assets.

On the whole, we have found our boys willing, cheerful, trustworthy, and fairly satisfactory, and shall continue to employ them as long as they care to come to us. We have been surprised to find the deaf son of deaf parents with greater general information and broadness of mind, and more adaptable even when city-bred, than the farm-raised son of hearing parents.

We have found, further, that in general the deaf do not care sufficiently for farm work and farm life to adopt it for their own upon leaving school. As one said, "There are no movies here."

The ready cash of the factory or town employment appeals to them, for like half the world they do not consider all sides. Said one: "No more farm work for me! There is my friend Brownson. He works in the automobile factory in Kalamazoo, and he gets *pretty* money when he works." (At that time the factory was shut down and Brownson was working on a neighboring farm for a dollar a day and his board.)

"But," we said, "when he works in the city doesn't his board cost a great deal?" We are overcome to this day by the triumphant and patronizing smile with which we were informed, "Brownson's board doesn't cost him anything. He is married and *he lives with his wife!*"

We wonder how many look at it that way.

GRACE TAFT STUTSMAN,
Old Mission,
Michigan.

REPORT OF THE EFFICIENCY COMMITTEE OF THE CONFERENCE OF SUPERINTENDENTS AND PRINCIPALS OF AMERICAN SCHOOLS FOR THE DEAF.

*Third Meeting, Philadelphia, November 15–18, 1915.**

THE Committee on "Measurement of Efficiency of Schools for the Deaf" appointed at the Staunton Convention held its third general meeting at the Philadelphia school, Monday to Thursday, November 15–18, 1915. Those present were Superintendents Johnson of Indiana, Jones of Ohio, Rogers of Kentucky, Crouter of Philadelphia, and Mr. Kilpatrick of Hartford, Connecticut. On behalf of the committee the following report of its proceedings is respectfully submitted.

During the meeting the committee made a thorough inspection of the school, as in Indiana and Ohio, inquiring into its organization, its various arrangements and equipment, its school work, its curricula and methods of teaching, its accomplishments in both literary and industrial departments, its domestic life, its recreational and social diversions, etc.

Sessions were held morning, afternoon, and night. The work of the committee at previously held meetings

*For reports of the first and second meetings see the *Annals* for March and September, 1915, vol. lx, pp. 179–183 and 312–319.

was carefully reviewed and in some instances slightly changed to conform to new thought and revised order of arrangement, notably as to age of admission, certificates of completion of school work, and exacted requirements of teachers. Consideration was given to establishment of standard literary and industrial curricula which should be of both cultural and utilitarian nature: to changes in certain subject matter, in whole or in part; to distinction between essentials and non-essentials; and to the elimination of waste, or useless, motion; all leading to that efficiency and economy of time and effort so desirable everywhere and really of greater necessity in the educational field than in the varied fields of business activities. No definite decision, however, was reached upon these matters, that being postponed to a future meeting.

In connection with the report of Messrs. Pintner and Paterson, referred to below, it was determined that certain standardized norms of weight, standing and sitting height, vital capacity (breathing or differential capacity), and strength of grip, be given careful consideration, seeking the degree of correlation, if any, with intelligence, etc.; which, at least, would give for other tests and observations quite valuable indexes of physical size and growth, of physical condition and capacity, and of general bodily strength, or endurance and fatigue; all of which, it is believed by many, will correlate more or less closely with one another and with the mental status of the one under examination.

Report on Educational Tests.

Since the report of the first and second meetings of the committee in Indianapolis (January, 1915) and in Ohio (April, 1915) Dr. Rudolph Pintner, Associate Professor of Psychology, Ohio State University, and his

associate collaborator, Mr. Donald G. Paterson, at the request of this committee and with its coöperation, have made two substitution tests (digit-symbol and symbol-digit) in each of the three schools, Indiana, Ohio, and Pennsylvania, wherein about one thousand pupils, about equally divided between boys and girls, were tested. These tests, serving as a combined test of learning ability, quickness of performance, and, in some degree, of memory—therefore in a measure indicative of intelligence, *i. e.*, general capacity of one consciously to adjust his thinking to new requirements, to new problems and conditions (Sterne)—were chosen because considerable work with hearing children had been done with them and standardized norms established for comparison; and for the further reason that they are in no sense a language test, which is a desideratum with deaf children to whom the Binet-Simon test, largely a word and language test, may not be justly applied. To quote Dr. Pintner:

> Learning tests involving language would be totally unsuited for the purpose of comparing deaf children and hearing children, because the deaf child is cut off from language experience, *i. e.*, normal social intercourse. It is the learning of language that forms the greatest obstacle in the education of the deaf child. We believe, therefore, that the choice of the two tests was happily made, as they can be administered and performed without the aid of spoken or written language.

The tests were given as class tests, the first and second in two of the schools on the same day, in the other school, two months apart, and all by Messrs. Pintner and Paterson, thus insuring uniformity of procedure in each test.

The written report of these gentlemen concerning their examination is a lengthy and exhaustive one containing some twenty tabulations and thirty-five or more curvegraphs, accompanied by full explanatory text. Throughout, comparison is made with the normal hear-

ing child and this research work will stand as the first important effort to compare through mental tests the deaf and the hearing child along normal lines. Division is made as to age, sex, cause of deafness (congenital or adventitious), oral and manual groups, etc., and consideration is given to acceleration and retardation in some of their phases. The report was presented and read by the chairman and discussed by the committee, section by section, and approved for publication.

In closing their report the examiners say:

> Two important features are to be noted in summing up the results of this investigation. The one is the general similarity of the results found in each of the three schools taken separately; and the other is the general similarity of the results for each of the two tests. It seems safe to say that, since we find this general similarity in the three schools and in the two tests, the conclusions we have arrived at may be regarded as supported by sufficient evidence. * * * In conclusion, we are of opinion that something has been gained in establishing norms for the deaf in these two tests. We believe that they form a reliable basis for comparing the work of any individual deaf child with the average deaf child of the same age. We wish emphatically to deny the possibility of an accurate mental diagnosis of any one child on the basis of these two tests, and yet a very poor performance on both these tests might arouse a suspicion that could be verified by other mental tests. In regard to groups of deaf children we have faith that the results of a group compared with our norms will give a good indication of the general mental level of the group. In this sense we believe that these two tests are admirable for a general survey of the mental level of a school. It will not do, however, for such work to be carried out by individuals indiscriminately. A certain technique is necessary and a strict conformity to the procedure as laid down by us is indispensable if results are to be at all comparable. We hold that most teachers are not fitted to give the tests from the mere fact that their attitude towards the child is naturally one of help and assistance. In some classes she would explain more than in others. This would invalidate the results. Strict adherence to a uniform mode of procedure is absolutely necessary. The results of tests conducted in such manner would undoubtedly prove useful in the classification of deaf children in practical school work.

General Reference to Results.

Without entering into a discussion at this time of the details and the argument of the examination leading to tabulations and curvegraphs, arranged according to chronological ages, the writer will state briefly and generally that among the results obtained after careful correlation are those that indicate that the deaf child is about three years behind the hearing child in learning ability, as tested by the rapidity and accuracy of forming associations between numbers and forms; that the deaf boy and the deaf girl are equal in learning ability, which is not the case with the hearing boy and the hearing girl, the latter being the superior; that the deaf boy, however, approximates more closely the hearing boy than does the deaf girl the hearing girl; and that there is practically no difference between the learning ability of the congenitally deaf and the adventitiously deaf. It may also be stated that comparison was made in two of the schools between the totally deaf and the partially deaf and that the curves show no radical difference between the two groups; but as these degrees of deafness were based upon the estimate of the teacher, which does not possess exact value, the comparison is unreliable and no definite finding is made concerning the matter because of the extreme difficulty in estimating the amount of hearing power without close scientific examination. Variations, of course, occur in the curves plotted for the separate schools and between those for classifications, but generally they approximate each other rather closely. The curves for girls are more irregular and variable than those for boys, but in no case are the variations uniform and constant excepting in two instances, *i. e.*, in all three schools the girls at eleven years of age show a pronounced drop in attainment while the same occurs in lesser degree for boys at

fourteen years of age. In distinctions between the oral and manual groups no reflection is made upon either of the two methods of teaching; the results merely indicate the learning ability of the children.

But it is customary (writes Dr. Pintner) in most combined-system schools where both oral and manual methods of instruction are used, to relegate the slower and duller pupils to the manual classes, and this fact is shown clearly by the results of the tests. * * * The fact, however, that we do find many manual pupils who are decidedly superior to oral pupils in this test of learning ability might raise the question whether there is not a type of pupil who, for some reason or another, cannot make progress under oral instruction and yet is by no means lacking in ability in other directions, where speech and lip-reading are not required. The results may, of course, be interpreted in another way, as meaning that the selection of the brighter pupils for oral instruction has not been carried out consistently.

In this connection the writer finds that in two of the schools, one with twenty-six classes, the other with twenty-three, the average Pearson coefficients of correlation are higher for the manual classes than for the oral—in one .16 and in the other .12, while the average mean variations are lower, .05 and .03 respectively. This would seem to indicate that, at least, the manual classes were as good as the oral; but herein the influence of number must be considered, as by far the greatest number of pupils is in the oral classes, thus giving greater probability of the action of chance—and perhaps, too, as stated by Dr. Pintner, "the selection of the brighter pupils for oral instruction has not been carried out consistently." In one of the three schools the results show that there is a decided tendency for the correlation to become lower as we go upward from the primary classes to the more advanced, which should not be the case.

Concerning children classed as Bright (two or more years accelerated), Normal ("at age" or one year advanced or retarded), Backward (two or three years

retarded) and Dull (four or more years retarded), the report shows that in each test, and in each school, the largest percentage of pupils fall within the dull group (40 per cent.) while the percentages in the normal and backward groups (almost 51 per cent.) do not differ greatly in the three schools. The "bright" pupils average about nine per cent. The combined curve of retardation for the three schools is slightly skewed to the right, that is, the greater number of children lie below two years' retardation, and the median falls within the three-year group.

In order to draw valid conclusions from the two tests, correlations (tendencies toward uniformity or correspondence) were made both by classes (90) and by ages for the three schools and the coefficients of correlations (degrees of uniformity or correspondence—from 0 to 1) were carefully worked out, likewise the degree of probable error of coefficients (from 0 to 1). When the coefficient is from two to five times the amount of probable error, the correlation may be said to have scientific value and to indicate results worth while. Now, in combining the various classes in each school, the average class correlation for each is .61, .64, .68, respectively; while for the age correlation of the three schools combined, the average for all ages is very high, .78, larger than that for the classes because of the relatively smaller number of pupils in the class groups, and twenty-two times greater than the probable error of .0351, which is very low. These figures indicate the high correlation between the tests, between the three schools, and with nearly one thousand deaf children, and give evidence of the reliability of the conclusions reached; in fact, the correlation is much higher than some of the correlations upon which standardized norms have been established for hearing children.

This psychological report, which will be included in and made a part of the final report of this committee, will be published in advance by Messrs. Pintner and Paterson as a contribution to science in a monograph entitled "Learning Tests with Deaf Children," it being one of the Psychological Review Monograph Series of the Psychological Review Publishing Co., of Princeton, N. J. Its publication will occur some time during the coming first quarter of the New Year, after which copies may be obtained from the company, or from Dr. Pintner, at a cost (to be announced later) just sufficient to cover the expense of issuance. It will make a book of probably seventy-five to one hundred pages and can not fail to be of interest and help to every teacher of the deaf.

Addresses Made.

In pursuance of its investigation the committee was fortunate in having with it at various sessions a number of noted educational psychologists and specialists who addressed the committee, exhibiting charts, etc., along various lines of educational development. The message delivered by each one was of vital importance and the whole presented a mass of most valuable data for consideration. The speakers were as follows:

Dr. Henry H. Goddard, Director Department of Research, Vineland, New Jersey Training School. Subject—"*Testing the Intelligence of Children and the Binet-Simon Scale.*"

Dr. Bird T. Baldwin, Director Department of Psychology and Education, Swarthmore College. Subject—"*Psycho-Etological Study of Meningitis and Educational Development.*"

Dr. A. Duncan Yocum, Professor Educational Research and Practice, University of Pennsylvania. Subject—"*Educational Development and Courses of Study.*"

DR. G. HUDSON-MAKUEN, Philadelphia. Subject—"*The Physiology and Psychology of Hearing with Special Reference to the Development of Speech.*"

SUPERINTENDENT O. H. BURRILL, Pennsylvania School for the Blind, Philadelphia. Subject—"*Development of Sense Defects.*"

DR. JOHN C. FRAZEE, Head of Vocational Training in the Public Schools of Philadelphia. Subject—"*Possibilities and Probabilities of Vocational Training.*"

The Binet Scale—Goddard.

Dr. Goddard was of opinion that many of the difficulties of the school to-day are the result of differences in inborn capacities rather than in inborn wickedness, and that it was absolutely necessary to have some method by which to establish and measure these capacities. He was sure such a method is presented in the Binet Scale. Thousands of children, both normal and abnormal, had been tested by the scale and the results were found to be wonderfully exact and of great practical value in making a school system, for instance, more efficient. Among the abnormal ones tested were the feeble-minded, the epileptic, the insane, the incorrigible and delinquent, and others, including criminals, and in all cases the degree of intelligence was being constantly and successfully measured, the application of the doctrine of probability to the results indicating small liability of error. He said that the great success of the test lies in the fact that they are based not on training or conscious learning on the part of the child, but on fundamental processes which develop at different ages. Among the normal school children the tests have established certain groups divided as to mental acceleration and retardation, those "at age" and those either one year advanced or retarded being considered as Normal; those two or

more years advanced to be classed as Accelerated, who, being especially well endowed, should be given opportunity more thoroughly to make use of their natural gifts; those two or three years retarded to be classed as Merely Backward and who may catch up; and those that are four years and more below the average child to be classed as Dull, who seem hopeless because of lack of mental development and can never have that judgment and common-sense needed for a normal life in any community, and sixty-five per cent of whom are victims of inherited conditions. In our schools for normal children, what we need, said Dr. Goddard, is some method of grading the children more carefully than now prevails under the ordinary school methods, so that acceleration and retardation may be properly provided for; so that ill-advised "grade-forcing" and "grade-holding-back" may be eliminated for the just and ultimate welfare of both child and community. On the one hand, he stated, we try to hold a dull child up to average and thereby utterly discourage him, while on the other hand the precocious child is permitted to "dawdle" along with the average child, wasting his time and developing bad habits.

Concerning the application of the Binet Scale to normal deaf children Dr. Goddard had not had much experience but thought that because of its being based on fundamental processes developing at different ages, and dependent in large degree upon verbal understanding, it could not with any degree of success, unless largely modified, be applied to the deaf child who lacked so greatly the language ability natural to the hearing child. However, he hoped to be able some time to present such a modification as to make the Binet Scale applicable.

Educational Curricula—Yocum.

Dr. Yocum asserts as a basic principle that education depends upon the retention of experience and the control of new experience through activity which has been given continuity and dominance by the old, and that this experience is gained through five forms of formal activity. All knowledge gained in school, or out, he states, is retained either in forgotten relationships (impressions); in single or partial relationships (vocabulary); in varying and many-sided relationships (interconnection of ideas); in definite and certain relationships (sense of habit and system); and in general relationships (application of ideas to varied fields of endeavor)—and that four sharp distinctions are fundamental for course-of-study making: Between knowledge and power; specific and general usefulness; general education and specialization; and essential and optional material. Referring to the five forms of activity, he says that all of them must be considered in determining the usefulness of material in any branch of knowledge or any phase of preparation for life; that no one form can be fully developed by any one branch of knowledge, and some can result only from the partial use of all.

In speaking of the distinction between specific and general usefulness, Dr. Yocum stated that while direct preparation for life consists in mental training, mental training does not necessarily prepare for the various phases of life; that a man may be generally learned or intelligent, but immoral, unhealthy, industrially inefficient, unsocial, weak or dangerous as a citizen, and ill prepared for the right enjoyment of leisure, while on the other hand a man may in a very definite and certain sense be prepared for every phase of life and at the same time be a mere creature of habit, unintelligent in his action, and ignorant of all that he has not put to specific

use; that the specific usefulness that prepares for life involves impression, vocabulary, interconnection habit and application, that are definitely and certainly useful to religion and morality, health, industry, social service, citizenship, or individual and social leisure. However it may be phrased, he adds, this is what we mean by education as "adjustment" or the "social aim."

Referring to essentials and non-essentials and to immediacy and non-immediacy of usefulness, Dr. Yocum said it was a false doctrine to proclaim, "Find out what interests children, and you know what to teach; find out when it interests them, and you know when to teach it." Essential things are not useful because they are interesting; they must be made interesting because they are useful and essential. Because things are naturally interesting or ready of development in a particular school grade is no reason why they should be taught there; and because they respond to natural interest at a later period or can be more readily developed then, is no reason why their teaching should be postponed; immediacy of usefulness, not immediacy of naturalness, should control; and in all things the essential should be winnowed from the non-essential which burdens text, teacher, and method of to-day.

Meningitis and Education—Baldwin.

Dr. Baldwin, in speaking of mental and physical retardation following cerebro-spinal meningitis, said:

> My own observations lead me to believe that any scale that measures a deficient child in terms of the normal child overlooks certain characteristic traits, certain stages and nodes of mental maturation, and possibly certain acuity of sensory-motor reactions which must be taken into consideration. In short, a mentally defective child is not simply a younger normal child, as an uncritical application of the Binet scale, or any other, would indicate. Again, mentally deficient children of a given general mental level may differ in traits and capacities among themselves very decidedly according to the cause of retardation."

Meningitis, in some of its varied forms, more particularly cerebro-spinal meningitis, being so largely a cause of congenital and acquired deafness, due perhaps in many instances to specific poison in the blood which may become operative before, at, or after birth (sometimes long after), and manifested frequently by spasms or convulsions; and the ravage of the disease often causing dire physical and mental affliction as well as deafness, the address of Dr. Baldwin was intensely interesting to teachers of the deaf who have to meet its victims so frequently in our schools. In referring to causes he stated that with the case in hand some phases of the impaired mental condition may be due to degeneration of certain neurons (nerve-cells) of the posterior roots of the cord and the cortex, as the paralysis, heightened reflexes, and hyperaesthesia indicate, or toxines in the cerebro-spinal fluid; and perhaps, to be added, the effects of large portions and varieties of drugs, notably bromide and chloral, which tend to cause a general decrease in mental efficiency. The clinical picture of such a case, familiar to many of us, was presented by him as follows: Normal condition in early childhood, physical and mental, followed at twenty months by a protracted illness of seven months due to cerebro-spinal meningitis; the subject at seventeen years, though possessing hearing and speech, exhibited pronounced mental defects, high nervous tension, partial paralysis of left leg and arm, excessive sensitiveness of skin (hyperaesthesia), instability, constant vacillation and shifting of attention, marked suggestibility, high-pitched voice, sense of form not well developed in either hand, and a decided unevenness in mental traits. Dr. Baldwin, in an interesting way, outlined his treatment of such a case along educational lines, physical, mental, and moral, stating that this problem was to find and control an

environment sufficiently simple for the subject's capacity and abilities, to lead him from the somewhat morbid feelings of failure to the joy of accomplishment and, as far as possible, to help him to be able to adjust himself to his rather complicated social surroundings. He soon found that the fundamental mental defects were lack of knowledge and apperception of form, size, direction, distance, number, and abstract concepts; an indifference to intellectual (not moral) truth; small capacity for initiative or inventiveness; and pronounced distraction of attention. Now, if we should add to the above deaf-mutism, we may readily recognize some of the cases presented to us in our schools.

In his efforts to develop all weakened traits or capacities showing, and to substitute for those entirely lacking, the standardized form-boards, cylinders, etc., were first used, followed by free use of Montessori material, simple forms of industrial or mechanical work, athletic games, and the usual school work for young children. Added to these efforts and in coördination therewith was the effort to eliminate abnormally developed instincts and to arouse into action dormant instinctive tendencies. Now, at eighteen years of age, the subject ranks fairly well in reading and spelling (grade 5), not so well in English (grade 4), physiology and arithmetic (grade 3); in arithmetic, however, being able to do only the very simplest subtraction and division, which seem extremely difficult of accomplishment (Philadelphia public-school grades).

Deafness and Speech—Makuen.

Dr. Makuen stated that now there was no question as to the anatomy of the external portions of the ear, nor as to the physiology of hearing through the auricle, the tympanic membrane, and the ossicular chain to the oval-

window opening into the inner ear, or labyrinth; but that when the sound waves are transmitted through this opening to the labyrinthine fluid, uncertainty arises and varied theories are created as to the physiology of hearing. Difference of opinion exists, he further states, as to the exact location of the perception of tone, but the best evidence gives it peripheral location with inner connection to *bilateral* centers in the cerebral cortex, in the region of the first temporal lobe on either side (primary or general auditory centers), associated with an adjacent *unilateral* center wherein word images only are received and registered (specialized auditory word center). This last, following the development of the general auditory centers and, to some extent, the motor centers, is of slow growth and is developed upon the left side in right-handed, and upon the right side in left-handed people. Dr. Makuen made use of charts to demonstrate this division of centers and their interconnection, and also the interconnection between them and the general visual, and visual word, centers, which play an important part in the development of speech and the power to read and write. Hearing, an acquired art dependent upon proper functioning of the auditory nerve, which is the last of the efferent nerves to become medullated, is, of course, the great factor in the development of speech, he states, but, with that missing, the eye may substitute for it; and, further, that the tactile and other avenues to the brain (valuable aids under any condition) may be trained to take the place of both hearing and sight under favorable conditions.

Presuming the faculty of hearing to have been duly acquired, it would seem to the writer that in the requirements necessary for speech, reading, and writing there may be for some reason lack of complete development of either the specialized auditory and visual word

centers, or of the two motor centers, resulting in congenital aphasia or agraphia in some of their varied forms, which should not in every case relegate the hearing mute to the feeble-minded class. True, in the very great majority of such cases the resultant aphasia and agraphia are due wholly to general mental degeneracy instead of a mental defect limited to the language field: and concerning these there can be no question as to their care. But is it not possible, nay, probable, that in a few cases the hearing mute may belong to the *backward normal group* rather than to the feeble-minded group?—and should not special classes for such, if they possess a fair degree of intelligence, be established in our schools for the deaf? The writer believes so. "The whole question of localization is still, after a half century of debate and investigation, a matter of heated controversy, and Moutier's exhaustive treatise, which appeared in 1908, weights the scale pretty heavily on the negative side" (C. H. Town).

Discussing the methods of developing speech in a deaf-mute, Dr. Makuen presented a very bright young girl, about sixteen years of age, a patient to whom he had given treatment and instruction for several years while directing the mother in her efforts to teach her child to speak. Whether the deafness was congenital or not was not stated, but at seven years of age, when first seen, the girl gave no evidence of hearing and made no attempt to speak. At this age faucial and pharyngeal tonsils were removed and the general condition of nose and throat improved. Afterwards measures were employed to develop some hearing power and to teach her speech and speech-reading. The treatment and efforts have continued over eight years and the young girl is now able to talk fairly well, to read the speech of others in fair degree, and to give good inflection to her words,

although Dr. Makuen has been unable to develop any hearing power whatsoever in the left ear and but very little under loud tone in close approximation to the right ear.

This case illustrates the possibilities of accomplishment with a deaf-mute child of good mentality, under the careful and frequent direction of an expert otologist and the constant efforts of a teacher who has no other one to look after. Would that our schools were filled with such children, that such expert direction could be given so frequently and constantly, and that we might have a teacher for each child! But such is not the case and, in the very nature of things, cannot be; our schools are but reflexes of the great world about us, where mediocrity is the common condition and where deficiency in so many cases has been stamped by Dame Nature ere birth occurred. Emerson has stated that the "gate of gifts" is closed at birth, but would he not have been more exact had he stated that it closed at the time of embryonic cellular creation? for *then* it is that life is first and finally marked with its natural distinctive quality—mental, physical, and moral—which is to be ever borne through existence and to be laid down only at the grave after constituent qualities may have been transmitted to children and to children's children.

> "Life rolls away and bears along
> A mingled mass of right and wrong."

Messrs. Burritt and Frazee spoke concerning their special work, the former referring to certain traits and characteristics of the blind and their educational development, and presenting a few problems that were common in the education of those bereft of one or more of their senses; while Dr. Frazee described the problem of vocational training as presented to him in his general supervision of that work in the Philadelphia public

schools. To those connected with schools for the deaf the thought came that the public schools were now beginning to do that which our schools had been doing for a generation or two, and doing in most excellent manner—the industrial preparation of our pupils so that they are enabled to gain a livelihood after leaving their alma mater.

In Conclusion.

The trend of thought with the committee, emphasized by its investigation along various lines, and the consensus of opinion of the various speakers and writers at the recent meeting in Philadelphia and elsewhere, have been admirably stated by Dr. Yocum in a recent article in the *Educational Review* upon the determinants of a course of study which must stand in all schools as the basis of educational progress:

> "The science of course-of-study making," he says, "is no simpler than any other science, no less technical. Fundmanental as it is for the mastery of all, why should it be? Analyses, resulting from the combined efforts of many thinkers, must in the end compel the agreement of all. There is one compulsion stronger than tradition or authority, before which individualism, however strongly intrenched in idealism or successful practice, has always given way: and that is the compulsion of the universally valid fact which analysis and research must sooner or later reveal."

The next and fourth meeting of the committee will be held early in April at the Kentucky State School for the Deaf at Danville. Prior to the meeting, Dr. Pintner and Mr. Paterson will conduct tests there similar to those given in the other schools. These tests, with a pupilage of 350 or more, and differing in some respects from the pupilage of Indiana, Ohio, and Pennsylvania, will, we believe, stand as corroborative of findings already made: and at the same time make the total number of deaf children tested about 1,400, ten

per cent. of the entire number of pupils attending our 154 schools for the deaf in the United States and Canada. This proportion of deaf children far exceeds, many times over, the proportion of hearing children tested and upon which our standardized norms and deductions of to-day are based, thus indicating in some degree the accuracy of our findings for general application.

RICHARD OTTO JOHNSON,
Chairman of Committee.

INDIANAPOLIS, *December, 1915.*

THE ASSIGNING OF LESSONS.

EVERY teacher knows that much depends upon the preparation given a subject before presenting it to a class—or, in other words, preparedness on the part of the teacher counts for a great deal. This preparation should be thorough, and every lesson should be gone over carefully, and be well understood before it is assigned. If this is not done, how can we expect to get good results from the pupil? A writer says "Knowing prepares for the Doing;" so teachers should never give a pupil a task to perform, unless they themselves have first mastered it.

The teacher's equipment should consist of at least some knowledge of the minds of the children whom he teaches, and sympathy should always exist between the teacher and the pupils, so that they may develop in their ability to think logically, and not become too dependent upon the teacher.

I think that the assignment of lessons should always be in the first period, because if it is left to the last we are apt to do it too hurriedly, and the children get only a confused idea of what is expected of them.

Mr. Barrett, in his work on "Practical Pedagogy," says: "If the lessons are properly assigned, the pupil will not only know what the task is, but will also know how to accomplish it." This may be true of hearing children, but is it so of the deaf? I believe that no teachers are more painstaking in preparing and assigning subjects than teachers of the deaf with whom I have been associated, but the work brought in by the pupil is seldom satisfactory.

Any teacher who finds it impossible to assign all of his work will gain greatly by assigning a single subject, as our motto should always be "Not how much, but how well." Mr. Payne says, "It is better that the pupils should make very slow progress at first, if they only acquire a habit of careful study, than that they should ramble through fields, missing oftener than hitting the mark."

The subject to be assigned should be carefully presented, especially to our children, in as attractive a form as possible. If it be a lesson in reading would it not be well to tell the pupil something of the story? Say that it is about the beautiful flowers, birds, etc. If it be a history lesson, give the class some idea of the character of the persons about whom they are to study.

Often to rewrite and give the study in another form arouses the pupils' interest, and stimulates them to do better work.

I think that with the deaf all difficult words and phrases should be thoroughly explained at the time of assigning the lesson, as referring them to the dictionary, where a word has several meanings, only confuses them, and the result is anything but good.

Mr. McMurry says, "He who refuses to help children in their trials and difficulties is too crude and undiscriminating to serve as a teacher." In giving assistance we

should always use judgment, as with the deaf child too much assistance is often given. We wish to make the pupil independent and self-reliant.

The assigning of questions for outside work is good, provided we make the questions simple and clear, and do not use too many stereotyped text-book questions. To assign good questions takes much thought and planning on the part of the teacher. It is not the number asked so much as a few thoroughly good questions that make the recitation a beneficial exercise. All teachers know that questioning which does not lead to the asking of questions on the part of the pupil proves anything but helpful. Mr. Seeley says, "One of the best proofs that children are doing self-reliant independent thinking is seen in the thoughtful questions they ask, when once interested in the subject assigned."

Another problem confronting the teacher is to determine the length of time or period to assign to a subject. Knowing that no two children are alike, either mentally or physically, is it well to say to the class as a whole, "You should finish studying the lessons assigned in so many periods"?

At times it might be well to consult the pupil in regard to the length of the lesson and also the time required to master it. However, this is not always a good plan, as the children nearly always wish to undertake more than they can do well. We should remember that it is not the length of time spent on a lesson, but the intensity of work, that counts; therefore, it behooves every teacher to be alert and in assigning subjects try to keep each child as busy as possible, for we know that "Satan always finds some mischief for idle hands to do."

In conclusion let me say that the teacher's work is by no means an easy task. There are difficulties and trials meeting us constantly on every side. Would it not be

well for us to study the life of the Great Teacher, who always shows infinite patience in all of his works, and who always does things well?

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WHAT IS REASONABLE PROOF THAT THE PUPIL UNDERSTANDS?

Of course the answer to this question depends a good deal on what the understanding is about. A pupil in the cabinet shop shows his understanding of instruction by doing his work correctly; in the bakery by helping to turn out good bread and pies; in the domestic-science department by a wholesome, daintily served, palatable menu. In the art and photgraphy departments the same principles prevail. The pupils are properly instructed, set to work while that instruction is fresh and vivid in their minds, and behold rugs, pictures, photographs, etc., in due time, as concrete and lasting evidences of the understanding and mental caliber of the pupils. It goes without saying that pupils without brains do not exhibit understanding in the industrial and art departments any more than in the literary department.

If we folks in the latter department could make every stroke of work tell in some visible and lasting result, as we suppose is possible in the making of furniture and rugs (even though it be only the presentation of work that has been spoiled through lack of understanding), we should more easily perceive when our pupils have not understood the instruction given, or when they do not really know what they are about while busy with pencil and paper. But, alas! there is that omnivorous waste-basket into which all exercises are soon thrust, often

without there having been due time fully to test the understanding of each pupil about what has been written. We surely are right in assuming that it takes more time to test the understanding of written work than of industrial work, especially when sentences are so written that meaning is obscure, and much questioning on the part of the teacher is necessary to find out whether the pupil has said what he had in mind to say. Often we discover that what he said and what he meant to say are ridiculously different and he is not fairly dealt with unless this is made evident to him.

Then the laws of the mental life are such that there will be much more variation in written work where there is any appreciable degree of originality in it, than in the work of a class of pupils who are all trying to do the same thing with their hands. Also this variation necessitates more personal attention on the part of the teacher. But all must be kept busy, and one exercise follows another, and the result is that too often there is not time fully to test the understanding of each pupil.

From the teacher's standpoint the ever-present, tedious, tiresome, yet, as to value, priceless drill affords the best opportunity to test the pupil's understanding of the instruction that is being given, especially drills that describe something seen, relate something heard, or express something desired. But from the pupil's standpoint some kind of created work is necessary, not only occasionally but repeatedly. Our understanding of instruction is quickly obscured unless we soon apply it, and such application alone clinches it in the understanding as well as proves we do understand. In speaking colleges and high schools we do not to-day see much of the old-time method of questions and answers on that which has been studied, but instead the pencil in the hand of the student, making rapid

notes of the instructor's lecture; or we see him busy in the library for the writing of some thesis, or gathering himself together for some suddenly sprung quiz. The underlying principle that proves understanding is always the same—the ability of the pupil or student to speak or write originally of what he knows, or to give some other expression of that which he has absorbed.

So we consider that the advantage the other departments of any school for the deaf have over the literary department in proving the understanding of the pupil is that the very nature of the work calls for constant practical application of the instruction given, so that every least bit of failure to understand shows up at once (of course, making due allowance for the lack of skill that can come only with practice). Such a situation, no doubt, is often trying to the instructor, but not so much so, perhaps, as to make the discovery a long time after, as is often done by the literary teacher, that some pupil who has been making good grades cannot adjust himself to a little shifting in the way he is required to do his work because he has not been understanding as he should what he was doing.

Now what are reasonable proofs of a pupil's understanding in the literary department from the primary grades up?

Perhaps in no grades is his understanding so easily tested as in the first and second year's work, where action writing forms the chief method of instruction. This indicates that we should cling to action writing as long as we can, and use as much of it as we profitably can, because of its unvarying test of the pupil's understanding of the words and phrases he uses, or his lack of it.

Perhaps next to this, descriptions of persons, objects, rooms, simple pictures, situations, etc., test the under-

standing of the pupil, affording opportunity for the slight variations in the situation that will keep the exercises from degenerating into the unthinking use of set forms of expression—the common foe to understanding. For this reason descriptions of the weather are useful in cultivating and proving the understanding of the lower-grade pupils; there are so many variations in the character of the weather; then, as we go on, there is opportunity to show that speaking people refer to the same kind of weather in different ways.

Does not the ability to describe pictures, complex in situations and actions, rank high as good proof of the pupil's understanding of what he is writing, when he becomes more advanced?

All these methods of cultivating and testing the understanding of the pupil appeal to the eye—a thing of paramount importance in the instruction of the deaf if we want to be sure of his understanding.

As to proof of the pupil's understanding in recitation of that which he has studied, especially when text-books are used, the subject is too broad to go into here except to allude to the general principle that he be pressed to give the matter in his own language, as far as possible, as proof of his understanding of what he has studied.

Once in teaching a bright class of intermediate-grade pupils the following method was occasionally used for the double purpose of having first a language exercise, next a good preparation for their understanding and careful use of the language found in their Elementary United States History lesson assigned for evening study. A paragraph, which the pupils had not seen, was put into natural signs, aiming to give the ideas, but not much clue to the form of construction used in the book. After they had written the matter and the work had been corrected they were permitted to read the paragraph in the book. There was the keenest desire to

know wherein and why their work was wrong and the greatest satisfaction in being told, as sometimes happened, that the various phraseology used by different pupils equally expressed the ideas found in the passage. The pupils were interested to the point of excitement in this exercise. In many years' experience I do not remember pupils being as much interested in any other exercise. Was it not that by comparing their work with that found in the text-book, and having been given all explanation for full understanding, they could be sure of their ground while studying the latter?

And this brings us to the most conclusive proof of all, perhaps, of a pupil's understanding—that he *shows interest* in what he is about. Not that lack of interest proves that he cannot understand, when he makes the effort, but there can be no real interest (except to get through with an imposed task) when there is not understanding. There was something pathetic to me in the pupils' vivid interest in the above-mentioned exercise. It pointed to such a desire to know *wherein* and *how* and *why* they failed—such satisfaction in being able to put their finger on the thing, so to speak, and know just where they were. May there not be much mental halting on the part of our pupils, saddening and discouraging them, because they are not fully sure of their ground, not fully sure that they understand well enough to attempt putting their understanding to practical use?

We know that Miss Kent's little manual hums from the first page to the last with devices to prove the pupil's understanding in number-work. If some one would rise up in the profession and give us a manual that would grade as carefully and thoroughly the broader and much more difficult and complex work of language instruction, giving us also something that would rap the understanding of the pupil as repeatedly during instruction

and at other times for proof of it in some kind of original work, what a good thing it would be! Many manuals have been written that help in this direction but it would mean far more to cover the whole ground for language work.

We all know that it is in original work that the understanding of the pupil is put to the greatest test. Not simply the kind the teacher calls for as tests of the pupil's understanding of her instruction is meant. That is good but necessarily is often partly memory work. What is meant is such work as the writing of home letters and of news items, the asking of questions about things in which there has been an outside-created interest, the reproduction of stories read or heard, and preëminently the proper execution (for all have not equal facility in composition) of written or spoken commands.

The writer realizes that this paper has not been particularly practical. In the rub and wear of schoolroom work we are all crying out for more light on methods that would help us to simplify and make plain, and to know how (in the rush of our work) to use better devices right on the spot and at the moment to prove the understanding of the pupil. But it is evident that such devices must vary greatly because of difference in what is being taught, as well as in the advancement and mental ability of the pupil, so that only a presentation of schoolroom devices to test the understanding of the pupils from a large number of schoolrooms could meet the situation. The writer for one would be delighted to have a symposium from many teachers upon this very point. Teachers who do their work equally well often do it in very different ways and there is no way to learn from one another except by each one speaking out.

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SCHOOL PROGRAMMES.

I BELIEVE it is the opinion of all the best educators that our school work is materially benefited by having a programme.

Not only do we want a programme, but we must be careful that it is a properly arranged programme.

Mr. Levi Seeley goes to the extreme when he says, "I believe that a loss of ten, twenty, and perhaps a still greater per cent. of the effectiveness of teaching often occurs from an improperly arranged programme. If this loss," says he, "were sustained by a manufacturer, a merchant, or any other business man, it would mean ruin."

Each teacher should be allowed some latitude in preparing her programme, for she should know better than any one the capabilities of the class of which she has made a study.

One writer has said, "A strictly uniform programme for a large school savors too much of dispatching trains or the maneuvers of a military post."

In the programmes I have examined the periods vary from ten to forty-five minutes. In the University of Texas the periods are of one hour's duration.

It has been found by tests that a child learns faster and remembers better in the first periods of the day; therefore it is expedient that the most difficult and important subjects be placed first on the programme.

The teacher should be careful not to allow any hobby of hers to take too much time, to the exclusion of other subjects equally important.

Raub has said that "a well-arranged programme not only leads to regular habits of study, but it makes pupils regular and systematic also in all their other work, and in their habits of life."

I plead that time be given on our programmes for study in the school-room under the teacher's eye and, still more important, that time be given to individual work. To help show the reasonableness of this demand, I shall quote from several books written by those who are considered authority on matters pertaining to teaching.

Emerson White says, "The value of a programme of class exercises is generally recognized, but the importance of study in the schoolroom is too little appreciated."

Speaking of the study period, one writer has most aptly said, "The doctrine of self-activity requires us to train pupils to study, and in no place can this be done so well as in the schoolroom by the teacher."

Mr. Payne advocates a study period in school for each subject. He says that in case the classes are so numerous as to make the time allowed to each study very short, then the principle of alternation may be introduced; that is, some lessons may be recited Monday, Wednesday, and Friday, and some others on alternate days. He says it is much better for the teacher to meet a class but twice or three times a week, having time enough at each meeting to make thorough work, than to meet daily for so short a time as to accomplish but little.

Mr. Arnold Tompkins says: "The teacher in making out his programme must be especially careful to provide for the study period. Until recently, the teacher gave little attention to this point, thinking that teaching is hearing recitations. But now we understand that the teacher shows at least as much skill, and serves the pupils as efficiently, in providing employment as in hearing the class."

Barrett in his "Practical Pedagogy" says: "If teachers follow a programme of continual recitations through-

out the day, many pupils through lack of proper direction of the teacher will fall behind the class. If the teacher has no definite period at which individual instruction may be given, the pupils will become discouraged and fail to make the proper effort. Every teacher should have a period between recitations to inspect the work of the students and to encourage and stimulate the slow pupils."

In 1898 Superintendent John Kennedy of Batavia, New York, reported to the board of education that they needed an additional teacher. They could get the teacher, but had no room. One room was very large and could seat sixty or seventy pupils. They decided to let two teachers work in this room. One heard the recitations, the other gave her time to the individual instruction of those not reciting. The plan proved such a success that the whole system of the Batavia schools was reorganized in such a way that the teachers employ half their time in class recitations and half in individual instruction.

What I have quoted is taken from books written to help teachers in instructing normal hearing and speaking children. But we are not teaching normal children. We are teaching children heavily handicapped by their deafness. If the normal child needs study under the teacher and individual instruction, how much more do our children need that study and individual work. That takes time and much of it.

Of course we can and ought to do much class work, but in my humble judgment it is the individual work that is the most beneficial. It yields the best results and results are what we want.

A programme should be somewhat elastic in its nature. For instance, if a teacher is trying hard to impress on the minds of her class some very important event as a

whole, and has not finished it in the time allotted on the programme, would it not be to the advantage of that class to consume some of the next period and, while all have their minds intent on that subject, continue it until it is mastered by the class or a majority of the class?

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PHOTO-ENGRAVING AND COMMERCIAL ART.

OF ALL advances in modern art and science, photography, aided by chemistry, electricity, and machinery, plays a most important part in the development of newspaper and magazine illustrating, which is one of the marvels of the twentieth century. It is with sincere regret, however, that the artist witnesses the rapid decline of wood engraving, due to the ever-growing popularity of photo-mechanical-engraving process work, which makes it possible by the use of the camera as the first stepping stone to produce pictorial illustrations in printing ink.

As the result of the introduction of this art, there has sprung up a school of illustrators and a goodly number of schools of illustration. A glance at the illuminated literature of the last decade will show the wonderful progress that has been made, considering the number of firms engaged in the business and the quality of the work done by the artists, engravers, and printers of the present generation. Uncle Sam leads the world in the number of pictorial publications. The American people appreciate the value of illustrative advertising as an impetus to the increase of their commercial and

industrial business; the aesthetic side of the pictures fascinates the masses. This art is, indeed, a moulder of public opinion, a dictator of fashion, and an agitator of political strife. Even a deaf school child of limited knowledge can, by a glance at a pictorial decoration, see and understand as much as by reading a page of stereotyped print. As a rule, the deaf are great newspaper readers and they especially enjoy the first-hand information to be derived from the lavish pictorial interpretation of current events.

The European war has much to do with the striking increase of activity in the general photo-engraving work throughout the world. The signs of returning prosperity to the United States can be seen in the stimulation of business through judicious advertising of our manufactured commodities. The most approved methods of reproducing drawings of all kinds by means of half-tone engravings, zinc etchings, and the color processes have made it possible, by the great reduction in the cost of work reproduced, for publishers, advertisers, and merchants to purchase as many drawings of commercial value as are needed to promote their trade. Pictures with clever ideas are in great demand by mercantile firms, for they act as the "silent salesmen" in selling their trade goods.

Why is it that the deaf, with few exceptions, do not take up either photography or photo-engraving as a means of livelihood? Those who are employed in engraving plants and art studios in New York, Boston, Chicago, and other large cities are generally good artisans and make a good living.

In three-color engraving work it is important to have a nearly perfect color vision in order to distinguish color sensations in plates specially sensitized which respond readily to the vari-colored rays of light. Color blind-

ness is rare among the deaf; so there is no reason why they should not succeed at color process work of any kind now employed. A deaf woman's natural keenness of perception, delicacy of touch, and appreciation of the beautiful enable her to do creditable work in retouching photographic negatives, and it is an agreeable vocation for a person of artistic tendencies. There is always a demand for skilled work in this line.

The first deaf illustrator in this line, known only to a few of us, was Mr. Tresch, who was on the art staff of the New York *World* many years ago; his way to fame was cut short by death when he was in the prime of young manhood.

A department giving technical instruction in photography, photo-engraving, or commerical art should be installed in every school for the deaf, for there is practically an undeveloped field in the art-photographic world where skilled help of this kind is always sought for. The Illinois School is at present probably the only one in the United States that teaches studio-photography exclusively. The New Jersey School has a photo-engraving department on a small scale as an adjunct to the printing office where the *Silent Worker* is published.

One of my fellow students in the photographic school I attended was a Japanese by the name of Yonkeura. He came here from Honolulu to learn photo-engraving with the object of starting a plant in his father's publishing house there, where the only newspaper in Hawaii in the Japanese language is issued. He spoke only a little broken English, accentuated by a profound bow of the head, and he could not write a legible sentence; yet despite this handicap he succeeded in receiving the necessary instruction from his professors who clubbed together and devised for his benefit a system of signs

with which to explain the method of putting theory into practice by way of demonstration. He mastered the fundamental principles underlying the art reproductive work in a wonderfully short time. What he did the deaf can do.

It is advisable for the deaf man to attend a technical or trade school where he can receive individual instruction to the best advantage rather than to serve a long apprenticeship in an engraving plant where he is left to shift for himself. To be a successful artist or engraver, the training of the eye to observe, the hand to achieve, and the mind to think and work out ideas is most important. A practical knowledge of drawing for reproduction is also necessary.

There is no denying the fact that a deaf person is at some disadvantage in many employments on account of his incomplete knowledge of "the barbarities of speech that continually ring in our ears"; but this disadvantage can be overcome to a large extent by a fair general education, the mastery of a good trade, and the proper understanding of human nature. The deaf are often born artisans, and they have an advantage in their power of concentration, unmolested by the factory noises which distract the attention of their hearing brethren in the same line of employment.

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THE FORM-BOARD ABILITY OF YOUNG DEAF AND HEARING CHILDREN.*

In October, 1914, the form-board ability of the entering deaf pupils of the Ohio State School for the Deaf was measured and compared with that of the entering pupils in the first grade of a public school attended by hearing children from homes of laboring men. Twenty deaf children, aged seven, and twenty hearing children, aged six, were so tested. Again, in October, 1915, the same children were retested. Eighteen of the twenty deaf children were available, while only fourteen of the twenty hearing children could be located. The others had moved to other parts of the city. We have, then, the records for eighteen deaf children and fourteen hearing children on the Seguin Form Board, tested on entering school and again one year later. We also have the records for seventeen deaf children, aged seven, who entered school in September, 1915.

The Form Board used was made from the description given by Sylvester,† but it differs in this respect—the insets fit in flush with the board proper. Hence, our results are not comparable with either the norms of Goddard‡ or of Sylvester.§

*Reprinted by permission from the *Psychological Clinic*, vol. ix, No. 8, January 15, 1916.

†R. H. Sylvester, "The Form-Board Test," in the *Psychological Review Monographs*, vol. xv, no. 4, Sept., 1913, pp. 1–56.

‡H. H. Goddard, "The Form Board as a Measure of Intellectual, Development in Children," in the *Training School*, vol. ix, June, 1912, p. 4.

§*Op. cit.*, p. 48.

We do not maintain that our modification of the form board is better or worse than the standard one in use. It requires a greater degree of muscular co-ordination to perform our test and therefore it is probably testing more factors than the standard board. At any rate the high correlations between performances separated by a year's interval indicate the reliability of the board we used.

Each child was given three trials and the number of errors and the time required were recorded for each trial. The total and the average number of errors made on the three trials as well as the total and the average time for the three trials was then found. Error and time deviations were calculated and from these the average deviations for each group were derived. Each group of children was also arranged according to the relative position of each individual within the group. From this the rank correlation between the first and second year standings in this test was obtained.

The deaf children were shown the board with the holes empty. By motioning with the hand the experimenter indicated that a block was to be placed in each hole. The child then began the test. The situation was readily interpreted by the children and misunderstanding of the directions was a negligible factor. The hearing children were introduced to the tests by the verbal directions, "Put these blocks in their right places, as quickly as you can."

Results are given in tables I and II. Table I gives the average number of errors for each group. Table II presents the averaged time records. In table I the first column gives the age group tested, the second column the number of pupils tested; column three the average number of errors for the first trial; column four the average deviation in errors for the first trial, while the

succeeding columns give similar data for the second and third trials. Column nine gives the average number of errors for all three trials and column ten those for one trial.

TABLE I. AVERAGE ERRORS.

Age Group	Number	Trial I	Av. Dev.	Trial II	Av. Dev.	Trial III	Av. Dev.	Av. of 3 Trials	Av. of 1 Trial
Hearing age 6.....	14	2.9	2.6	3.0	2.5	1.5	1.7	7.5	2.5
Hearing age 7.....	14	1.2	0.9	1.4	1.3	0.8	0.9	3.3	1.1
Deaf age 7.....	18	3.4	3.1	0.9	0.9	1.5	1.4	5.7	1.9
Deaf age 8.....	18	1.2	1.2	0.9	1.2	1.0	1.0	3.0	1.0
Deaf age 7.....	17	1.3	1.0	1.0	0.8	1.0	1.0	3.6	1.2

TABLE II. AVERAGE TIME.

Age Group	Number	Trial I	Av. Dev.	Trial II	Av. Dev.	Trial III	Av. Dev.	Av. of 3 Trials	Av. of 1 Trial	Av. Dev. for 1 Trial
Hearing age 6...	14	71.1	23.4	61.1	23.8	47.0	8.3	179.7	59.9	16.6
Hearing age 7...	14	46.4	15.5	34.3	8.2	31.9	5.8	112.6	37.5	8.7
Deaf age 7.....	18	72.9	20.9	50.3	10.2	50.1	12.7	173.3	57.7	12.2
Deaf age 8.....	18	39.4	9.1	29.4	5.3	27.6	5.1	96.4	32.1	5.9
Deaf age 7.....	17	49.7	9.9	42.6	8.2	40.4	10.9	134.8	44.9	8.8

Table II gives similar averages for the time records. An additional column gives the average deviation for one trial.

We find by an analysis of table I that the seven-year-old deaf child makes more errors on the first trial than does the six-year-old hearing child but on the second and third trials the reverse is true. For all three trials the six-year-old hearing child makes more errors than the seven-year-old deaf child. With regard to time we see much the same thing in table II. However, the superiority of the deaf group over the hearing group is so slight as to warrant the statement that the seven-year-old deaf child of the entering class in 1914 is equal to the six-year-old hearing child or about one year retarded on this test.

Now considering the effect of a year's development it seems that the deaf child has made a relatively greater gain than the hearing child with respect to time but not with respect to errors. In table I we find that the hearing child made a gain of 56 per cent. in the reduction of his errors for all three trials (a gain of from 7.5 in 1914 to 3.3 in 1915). Similarly the deaf child made a gain of 47 per cent. (5.7 in 1914, and 3.0 in 1915). In table II in regard to time we find the reverse to be true. The hearing child made a gain of 32 per cent. (from 179.7 [average time for three trials] to 112.6). The deaf child gained 44 per cent. (from 173.3 to 96.4). The results seem to indicate that the year's growth had a slightly greater effect in increasing the form-board ability of the deaf child than of the hearing child. The average deviations in time for one trial are also smaller for the deaf child than for the hearing child. This means that the deaf children tended to cluster around the mean more closely than did the hearing children. In other words, the deaf children tested were more homogeneous in form-board ability than the hearing children. The deaf children aged eight are, however, still backward.

The deaf children aged seven who were tested for the first time in October, 1915 (shown on the last line of table II), seem to be superior to those who entered the previous year. This is significant and indicates the value of annual testings. Each annual testing of the entering class would in time give valuable norms which could well be used in determining the educational prospects for a given class. Some classes might need radical classification into groups while others might progress as a unit.

The Spearman Correlation "Foot-Rule" or R-Method* was used in determining the degree of corre-

*G. M. WHIPPLE, "Manual of Mental and Physical Tests." Baltimore: Warwick and York. 1914. Part I, pp. 42–43.

lation existing between ranks on the test in the first year and the ranks in the second year. For the deaf children the Spearman R value was .44 which equals Pearson's r value of .64.* This r value is eight times the P. E.,† which makes the correlation reliable. For the hearing children a still higher correlation was found. The Spearman R was .68 which corresponds to the Pearson r value of .88 with a P. E. of .0486. The Pearson r is 18 times the P. E. and thus indicates a very reliable correlation. These correlation values reassure us as to the validity of the test, for they indicate that although all the pupils gained greatly from one testing to the other, yet they maintained their relative ranks. In other words, those relative ranks are not due to chance but to some native ability which is more or less permanent. The correlation for the deaf children is lower than that for the hearing children because one child made a tremendous gain. This gain was probably due to some physiological change in the growth of that child's nervous system, for the teacher reports that his whole manner and attitude seemed to change suddenly, his arm and leg movements seemed to become more nicely co-ordinated, and he has made progress out of all proportion to the rest of the children.

Summary.

The results of this paper seem to indicate that the average entering class of deaf children is apt to be about a year backward in form-board ability and that this backwardness is not made up during the first year in school. Further, the ability of the entering classes varies to a considerable extent, indicating probably the need of adjusting the educational programme to the

*G. M. Whipple, "Manual of Mental and Physical Tests." Baltimore: Warwick and York. 1914. Part I, p. 44.

†*Ibid.*, p. 40.

ability of the particular class. The results point to the desirability of establishing norms for various tests, so that entering classes can be better understood, in so far as the mental ability of an individual or group determines the extent to which an educational programme can go in modifying and moulding its materials.

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THE MUSIC HOUR.

[From "In the Silent Hours."]

"We're going to play and sing, love,
Will you be lonely, dear?"
Nay, I shall rest in the gloaming
And fancy all one hears—
Feel I the vibrant chords thereof
And "music of the spheres."

I know there's music in the air
Though all around is still;
I know that chords of harmony
Respond to magic skill,
And though I hear it not I feel
The air's vibrating thrill.

Though reaching ne'er my inmost ear
Those harmonies I crave,
They flow around me constantly
And all my senses lave,—
I feel them in the whispering breeze
And on the murmuring wave.

They tell me oft how much I miss
From Phoebus' golden lyre,
And yet I lose not all the bliss
Of the music's "divine fire,"
For feel I not fair Nature's rhymes
And all that they inspire?

T. G. ARDEN.

SCHOOL ITEMS.

Chinchuba Institute.—Sister Athanasia, Superior of the Chinchuba Institute for more than twenty years, died at the Institute January 25, 1916, aged seventy-seven. She was a native of Baltimore and was known in the world as Mary Bauer. "It was through her that many of the bright touches were created which gave the Institution the true atmosphere of home."

Georgia School.—Miss Grace Kinsley, a former teacher in this School, has returned to the work.

Kansas School.—Miss Ada G. Alcorn has resigned to teach in the day-school at Bay City, Michigan.

Mississippi Institute.—Mr. Carl Wear, a graduate of the Missouri School, who also took a post-graduate course there and a course in the State University, has been appointed instructor in cabinet-making.

Missouri School.—Mrs. E. M. R. Taylor, who has been art teacher in the Missouri School for more than twenty years, has resigned because of the illness of her husband. She is succeeded by Miss Lois Taggert, a graduate of the Chicago Academy of Fine Arts.

Nebraska School.—Miss Alberta A. Regnier, an instructor in the Manual Department since 1901, has resigned and is succeeded by Miss Stacia Barbara Kuta, B. L., a graduate of the Nebraska School and of Gallaudet College.

Oklahoma School.—Miss Ivy J. Myers, a highly valued teacher, died February 4, 1916, of pneumonia. She was a graduate of the Missouri School and of Gallaudet College.

Miss Thirza Pearson, teacher of domestic science, has resigned to be married. She is succeeded by Miss Mary Spear, who returns to this position after teaching in the Texhoma High School for the past two years.

Ontario School.—The *Canadian* for February 1, 1916, tells how largely the patriotic teachers of the Ontario School are represented in the Canadian army:

"Two of our teachers, Messrs. H. L. Ingram and Thos. Pratt, have enlisted, and are now taking a six weeks' lieutenant's course at the Military Training School at Kingston. They both expect to get commissions in the 155th battalion, now being recruited in Belleville. Our instructor in carpentry, Mr. M. W. Parks, has joined the band of the 155th, and probably will accompany it across the ocean. Mr. F. White, our messenger, has also donned the khaki. He served in the South African war in an artillery brigade, and holds a gunnery certificate. He will probably proceed directly to the front. In addition to the above, Mr. Stanley Nurse, who was on our teaching staff last year, holds a lieutenant's commission in the 155th, and is now engaged in drilling recruits at Tweed. Mr. Ingram's only son, Harold, is now at the front, as is also a son of Mr. Peppin, our engineer. The latter was wounded some time ago, but is again at the front. Miss Rierdon and Miss McBride have each a brother at the front or on the way there. Miss Hazlitt, at present supplying here in Miss James' place, has had two brothers in France for nearly a year. Several other members of the staff have relatives who have enlisted, as have also many of the pupils."

Pennsylvania Institution.—Mr. John T. Morris, a director of the Institution for about twenty years, to whose beneficence the Institution owes its fine building for manual training, died in August of last year. By his will he left his beautiful estate of seventy-five acres at Chestnut Hill as the site of a botanical garden, a school of horticulture and gardening, and a museum with an endowment of more than a million dollars. One clause of the will relating to the school of horticulture and gardening reads as follows:

I direct that as far as possible a preference be given to applicants for admission who are deaf or partially deaf, provided that they have been orally instructed, both because of my interest in such people, and because I believe gardening is an occupation that they may follow with a minimum of difficulty.

Other provisions of the will are:

No fixed term of instruction shall be prescribed for students. Each student shall be studied as an individual, and he may receive his certificate of efficiency after a shorter or a longer course as in his particular case may seem fit. No tuition fee is to be charged the students. The students' clothing is to be provided by the managers and the living

expenses of the students are also to be paid by them. No student, however, shall be entitled to receive a certificate of regular graduation until he has attended a course covering at least three years of work. Each student upon graduation from a course of not less than three years, is to receive an honorarium of $100, and a reasonable time is to be allowed him in which to find a position; but while he remains at the school under these circumstances he must render service in return for board and lodging.

Careful provision is to be made for the religious and moral instruction and training of the students. Sunday is to be observed in accordance with the sane and wholesome Christian ideal. Each student will be expected to attend church on that day.

South Dakota School.—Mr. Frank Jenson has resigned the position of dairyman and is succeeded by Mr. Duncan A. Cameron, B. A., formerly of the Mississippi Institute.

West Virginia School.—Two new industries have been introduced into the West Virginia School: picture-framing, and the cleaning, pressing, and repairing of clothing.

MISCELLANEOUS.

The Opportunities of the Residential School.—Mr. Edward E. Allen, Director of the Perkins Institution, in his opening address at the meeting of the American Association of Intructors of the Blind held at the California Institution last summer, spoke as follows of the dangers and the opportunities of a residential school for the blind. What Mr. Allen said applies equally well to residential schools for the deaf. We quote from the *Outlook for the Blind* for October, 1915:

"As to the residential school, let it beware of keeping its pupils too long, of giving them too much for nothing, of providing too many things ready made and kept in repair by experts, of having too fixed a routine and of living a life almost freed from responsibility; in short, let it beware of institutionalizing its pupils. Now, as a matter of fact, the corporate nature of such a school furnishes us advantages which we should be quick to seize. A dozen years ago I felt it to be no necessary part of the institution's responsibility to require more of the pupils than good behavior and strict attention to health and school studies. I now feel that, when the boarding school receives a child, it assumes also the paren-

tal responsibility of promoting in every way the education of that child towards social efficiency. It may be difficult for us to do this, but it is our task nevertheless, and we cannot justly argue ourselves out of a position of responsibility towards it. Our duty is to lift as many as possible on to the plane of self-support. Therefore, we should eagerly seize the opportunities of our community life and make every one in it 'a self-respecting co-operating agent in the enterprise.' It has been my recent fortune to be able to rebuild on the plan best adapted to promote this sort of thing, the small cottage family plan, and by so doing to have opened up for my boys the splendid opportunity for growth and social efficiency my girls already had. This is through simple housework done every day. Everybody contributes. And it assures not only a happier, more frictionless household, but also a less expensive one; for to my own surprise I find that the closer care and attention to waste and the practicability of using leftovers in the small family plan makes the cost of food less than in the congregate plan. The hours of school are not one whit curtailed on account of the housework done by the pupils; but if they had to be, I should continue the system just the same.

"This kind of socialized education may not be practicable in the congregate institution. Then seek some other channel of supplying it, even if only to fill in profitably the free-time gaps in the grammar-school period of adolescence. This is the time of greatest responsibility. Hence, we have all welcomed athletics. Some schools have introduced gardening, some poultry keeping, still others the boy-scout and the camp-fire movements—those magnificent conceptions which are big with promise according to the spirit of their leaders. A few have turned their boys' shop or one of their shops into a laboratory potentially equipped with all manner of facilities for doing and making things dear to the heart of boyhood, and after discovering a man who is at once a mechanic of resourcefulness and vision and a real boy leader, have bidden him develop his opportunities to the utmost, being present in his shop in his free time, of course, for then is his greatest chance. Boys will flock to such a place, even from the playground, and develop there a capacity surprising alike to themselves and to their school teachers; for capacity grows with interest, and interest aroused and sustained through self-activity under inspirational guidance is more potent than that exacted in a fixed course of study or exercises. Therefore, hold your man when you have found him, paying him, if necessary, more than any other teacher, even though doing so requires that you economize in any other school department whatsoever; for, after all, he is the real educator who teaches not subjects but boys, and your laboratory shop is one of his most fertile fields. The newest and finest family boarding-school for rich boys which I visited in Germany four years ago, and for the privilege of seeing which I had to obtain a permit from the governmental department of education—the Arndt Gymnasium near Berlin—

was equipped with this kind of free-time laboratory. The same principle is carried out and improved upon here at home in orphanages just outside of New York City, the New York Orphan Asylum and the Hebrew Sheltering Guardian Society. Study Dr. Reeder's book, 'How Two Hundred Children Live and Learn,' or, better still, visit both these cottage family homes, and while visiting go also to Virginia to see Hampton Institute. * * * The Hampton graduate is really and truly educated; for he is fitted to live with his kind, because he is acceptable both for what he can produce and what he is—in other words, he is socially educated.

"When the graduates of such orphanages and institutions go out into the world places are found for them to fill; but the important point is, they fill them. This is because the youth who has been socially efficient in the community of youth is the better able to be so in the community of men."

A Blind-Deaf Poet.—Morrison Heady, the blind-deaf poet of Louisville, Kentucky, died at his home in that city last December, aged 86. Mr. Heady lost the sight of both eyes by an accident in childhood and later, in consequence of a fall from a horse, gradually lost his hearing, becoming totally deaf at the age of forty. He was largely self-educated, but he learned to read embossed print at the Kentucky School for the Blind. He afterwards acquired one of the largest private collections of books in raised type in the country, which he presented to the Louisville Public Library a few years ago.

Mr. Heady was the author of "Burl," reviewed in the *Annals*, vol. xxix, page 140; "The Farmer Boy," a life of Washington, "The Red Moccasins," and a book of poems, "The Double Night and Other Poems." His method of communication with the world was the "glove" alphabet. The *New York Times* of December 23, 1915, says of him:

"There was scarcely a school-child in Louisville to whom the tall, white-haired, and white-bearded man was not a dear and familiar sight, as he swung sturdily through the streets, tapping his heavy cane with a sound as cheery as his smile. The children loved to spell their names and little messages on his glove and to beg him for a story. The grown-ups, however, pointed to him as a living sermon on contentedness and optimism. Materially, he had little to be contented for. But even his

most intimate confidants scarcely ever heard him complain. In his last illness, to friends who visited him at the hospital, he still spoke hopefully of his two unpublished books, and discussed new plans of work in connection with them."

"*In the Silent Hours.*"—A well-known teacher of the deaf has printed (1915) under the transparent pseudonym of "T. G. Arden" a little volume of short poems entitled "In the Silent Hours." Considering that the poet's ears have been totally sealed to sound for more than half a century his verses, which are in various metres, are remarkably rhythmical. They show a lively fancy, a vivid imagination, a love of nature, of humanity, and of God, and a spirit of unconquerable optimism.

Deafness-Cure Fakes.—In a pamphlet entitled "Deafness-Cure Fakes," published by the American Medical Association in 1915, the following much-advertised "cures for deafness" are condemned as worthless: "Actina," "Branaman Remedy," "Coutant's Cure," "Gardner's Cure," "Dr. Grains Company," "Help-to-Hear Company," "The Morley Ear-Phone," "The Way Ear-Drum," and "The Wilson Ear-Drum."

Shoemaking.—The *Silent Hoosier* of February 3, commenting upon the statement that the teaching of shoemaking has been discontinued in the Louisiana and Wisconsin Schools, says that if the purpose of the industrial departments is to teach boys trades that will support them in the outside world, it will be some time before shoemaking is discontinued in the Indiana School. A larger proportion of the pupils who are taught shoemaking follow that occupation in after life than of those from any of the other industries taught in the School.

The Census of 1910.—The Department of Commerce, Bureau of the Census, published in 1915 a preliminary bulletin entitled "The Census of the Deaf and Dumb, 1910."

The original law providing for the taking of the Thirteenth Census made no provision for the enumeration of the deaf or the blind. Through the efforts of the committees on the census of the Convention of American Instructors of the Deaf and the Association to Promote the Speech of the Deaf, a Joint Resolution was passed by the Sixtieth Congress authorizing and directing the Director of the Census "to obtain the names and addresses of the deaf and the blind in the United States, notwithstanding the restrictions and limitations contained in section eight of the Act entitled 'An Act for the taking of the Thirteenth and subsequent censuses.'" The Census Act of that Congress was afterwards vetoed by the President and when it was renewed in the following Congress the words "deaf and dumb" were unfortunately inserted instead of "deaf," probably through inadvertence. The Director of the Census in his instructions to the enumerators interpreted the term "deaf and dumb" very literally. The instructions read:

"*Column 32. Whether deaf and dumb.*—If a person is *both* deaf and dumb, write 'DD.' For all other persons leave the column blank. Persons who are deaf but not dumb, or persons who are dumb but not deaf, are not to be reported."

Some of the enumerators, following these instructions, returned only the deaf who could not speak at all; others interpreting the law for themselves in accordance with its spirit rather than its letter, included the deaf who had learned to speak; others, disregarding both the letter and the spirit of the law, returned persons who were not deaf. The total result, of course, was very unsatisfactory. The number of persons returned as deaf and dumb was 44,519; on account of trustworthy information received by the Census Office, 189 names were subsequently added, making a total of 44,708.

To each of the persons returned by the enumerators a special schedule of inquiry was sent by mail, asking for further data. Less than half of the persons addressed re-

turned satisfactory replies; "the others either failed to receive the schedule of inquiry, or receiving it failed to return it, or returning it either stated explicitly that they were not deaf or upon examination of the schedule were excluded as outside the scope of the inquiry." In view of this state of affairs the Census Office finally decided to make no tabulation of the total population returned by the enumerators as "deaf and dumb," but to confine the statistics to those deaf persons who replied to the special schedules.

It also wisely decided to interpret the term "deaf and dumb" more liberally than was done in the instructions to enumerators, making it include "(1) all totally deaf persons who had never acquired the power of speech or having acquired it had lost it either wholly or to such an extent that it no longer constituted an effective means of communication, this class constituting the "deaf and dumb" in the most literal sense of the term; (2) all other totally deaf persons who had lost their hearing before the completion of their eighth year of life, even if they were able to employ speech as a means of communication, and (3) all partially deaf persons who could hear *only* with the aid of an ear trumpet or other mechanical appliance and whose deafness had supervened before the completion of their eighth year of life." The total number of persons tabulated is 19,154. While neither this figure nor that of the enumerators' returns has any value as an indication of the total number of the deaf in the United States, the information contained in the statistical study of the returns of the special schedules, soon to be published, will, we hope, be interesting and valuable. It will include statistics of race, nativity, and sex; age; marital condition; age when hearing was lost; deafness among relatives; schooling; means of communication; occupation; and earnings. A summary of some of the tables is given in the preliminary bulletin, but we defer comment until the publication of the full report.

The Society for the Welfare of the Jewish Deaf.—The Fourth Report of the New York "Society for the Welfare of the Jewish Deaf," published in the February, 1916, number of *The Jewish Deaf*, shows that the Society is carrying on an excellent work. It maintains an employment bureau which placed 130 persons in positions in 1916 and 90 in 1915, a poster workshop which gives temporary employment to stranded workmen, a monthly periodical (*The Jewish Deaf*), an evening class for immigrants, and much social and religious work.

The Value of Speech to Deaf Wage-Earners.—The following table showing the average weekly earnings of deaf workers who have obtained employment through the aid of the New York Society for the Welfare of the Jewish Deaf during the past three years, taken from the Fourth Annual Report of that Society, indicates that speech and speech-reading are a valuable asset to deaf wage-earners. Though the numbers reported are too small to render the results conclusive, their relative uniformity for three years gives them considerable weight.

	1913		1914		1915	
	Number.	Average Wages.	Number.	Average Wages.	Number.	Average Wages.
Lip-readers and Articulators.....	23	$9.25	99	$11.25	55	$11.50
Lip-readers and Signers.....	29	7.30	17	9.00	3	8.50
Signers only.....	16	4.70	54	7.75	42	8.50
Uneducated, experienced in a trade, immigrants.....	.....	.....	.....	.....	5	9.00

The National Education Association.—At the meeting of the Department of Special Education held in connection with the meeting of the Association at Oakland, California, last summer, Mr. William A. Caldwell, of the California School, read an excellent paper on the Combined System.

The next meeting of the Association is to be held in New York City July 3–8, 1916. The officers of the Department of Special Education are Elizabeth E. Farrell, Inspector of Ungraded Classes, Department of Education, New York City, President; Lewis M. Terman, Associate Professor of Education, Leland Stanford Junior University, Vice-President; Frances E. Cheney, of Springfield, Massachusetts, Secretary.

Robert C. Spencer.—Mr. Robert C. Spencer, the leading promoter of day-schools for the deaf in Wisconsin, died January 10, 1916, at his home in Milwaukee. Mr. Spencer was a warm-hearted friend of the deaf and a sincere believer in the superiority of day-schools and the oral method. His enthusiasm for these objects was so great that he could see little good in any other kind of school or method of instruction. He even went so far as to advocate the abolition of the State School at Delavan and succeeded in getting a bill for this purpose introduced into the legislature, but it failed to pass.

Periodicals.—The Italian *L'Educazione dei Sordomuti*, which ceased to appear at the close of the year 1913, has resumed publication with the number for January, 1916, beginning its thirty-seventh volume. As for eleven years before its suspension, it is edited by Mr. Giulio Ferreri, the accomplished Director of the Royal Institution at Milan.

The periodical *Charitas* of the Pia Casa at Naples, Italy, which, as was reported in the January number of the *Annals*, was suspended last year on account of the war, has resumed publication.

Mr. Henri Gaillard, of Paris, France, has resuscitated the *Gazette des Sourds-Muets*, which had been suspended for several years. He intends to make it a newspaper devoted to the interests of the deaf, while the *Revue des Sourds-Muets*, which he still conducts, will henceforth be limited to pedagogical and literary subjects. The January number of the *Gazette* begins its twenty-seventh volume.

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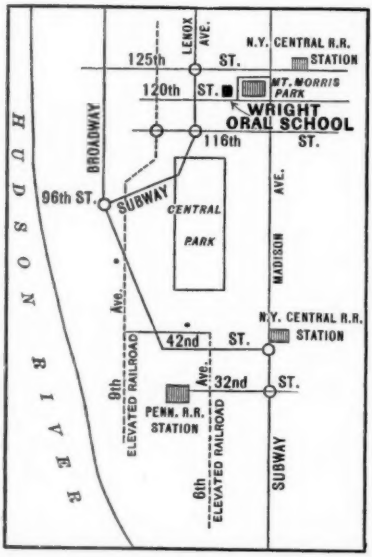

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CONTENTS.

PAGE

Calling Up Visual Memories to be Used in Educating the Deaf, *Elizabeth B. Avery* 117

The Difficulties of Language Teaching. . . . . *Emma Kelly* 124

Nature Study . . . . . *William Hickman Carter, M. A.* 127

What a Deaf Child Learned from Mail-Order Catalogues, *Edith Mabel Nelson, M. A.* 133

Early Steps in Number Work for Deaf Children . *Luna May Bemis* 134

The Necessity of a Speech Environment . . *John Dutton Wright, M. A.* 137

Farming for the Deaf . . . . . *Grace Taft Stutsman* 142

Report of the Efficiency Committee of the Conference of Superintendents and Principals of American Schools for the Deaf, *Richard Otto Johnson* 150

The Assigning of Lessons . . . . . *Caroline M. Howard* 168

What is Reasonable Proof that the Pupil Understands? *Laura C. Sheridan, M. A.* 171

School Programmes . . . . . *Nannie M. Jones* 177

Photo-Engraving and Commercial Art . . . . . *Clarence A. Boxley* 180

The Form-Board Ability of Young Deaf and Hearing Children . . . . . *Rudolph Pintner, Ph. D.* / *Donald G. Paterson, M. A.* 184

The Music Hour . . . . . *T. G. Arden* 189

School Items . . . . . *E. A. F.* 190

Chinchuba, Georgia, Kansas, Mississippi, Missouri, Nebraska, Oklahoma, 190; Ontario, Pennsylvania, 191; South Dakota, West Virginia, 192.

Miscellaneous . . . . . *E. A. F.* 192

The Opportunities of the Residential School, 192; A Blind-Deaf Poet, 194; "In the Silent Hours," 195; Deafness-Cure Fakes, 195; Shoemaking, 195; The Census of 1910, 196; The Society for the Welfare of the Jewish Deaf, 198; The Value of Speech to Deaf Wage Earners, 198; The National Education Association, 199; Robert C. Spencer, 199; Periodicals, 199.

Advertisements 200